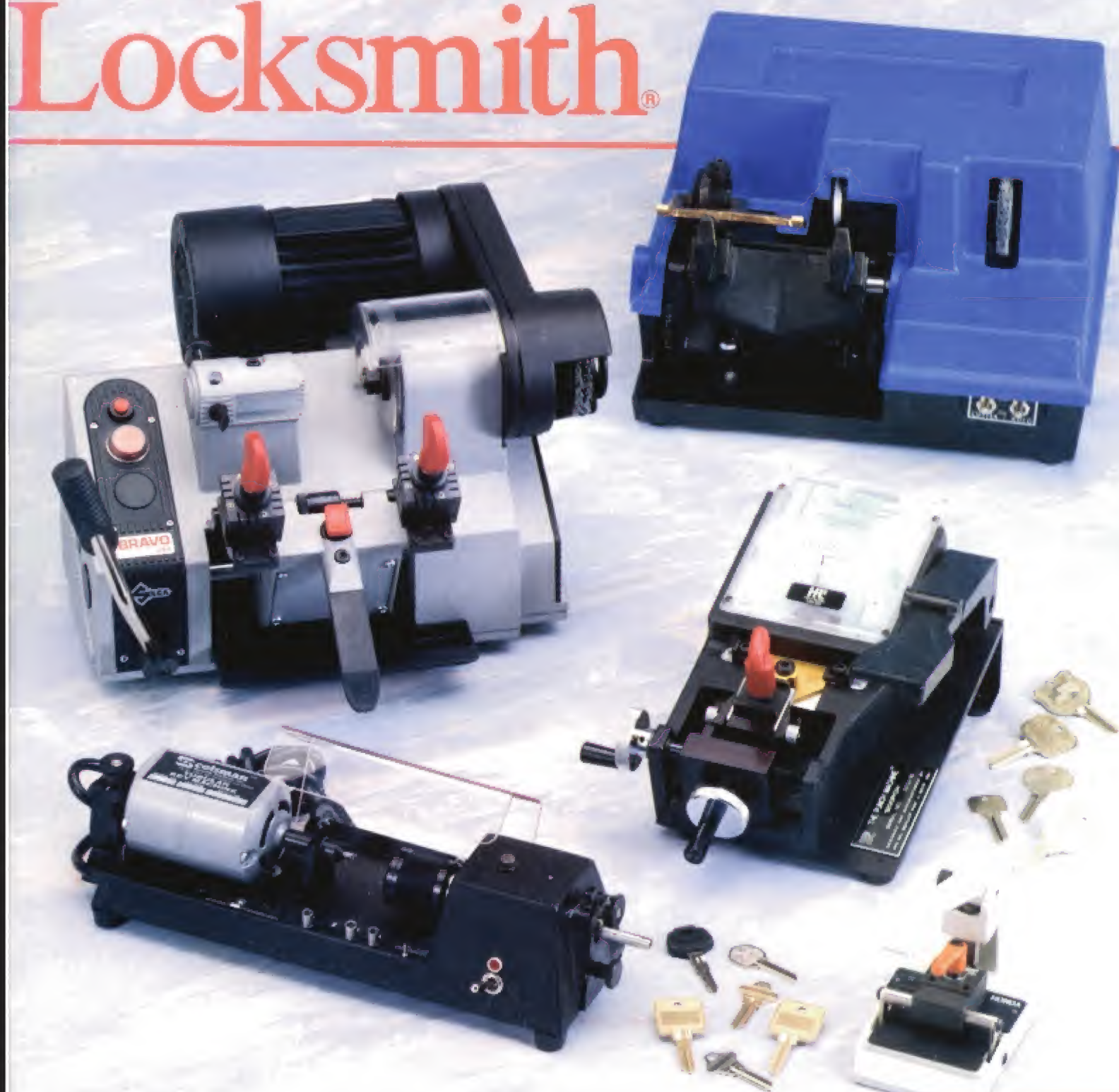


May 1992

The National Locksmith®



Key Machine Issue!

Inside:
*The Patriot
Program By
Medeco*

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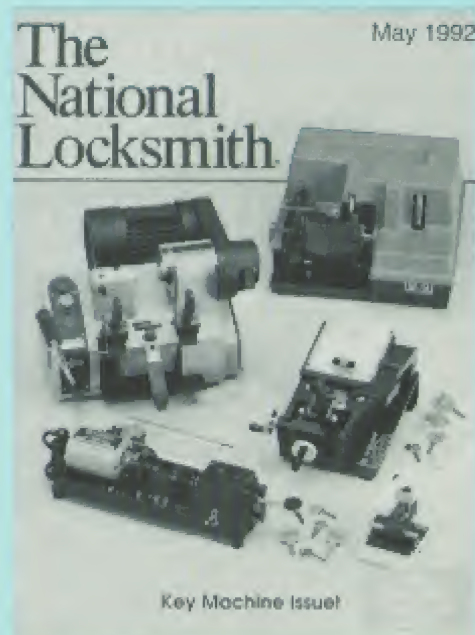
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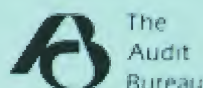
On The Cover

This month we feature keys and key machines. Companies featured with key machines are: (clockwise from bottom left) Scotsman Security Products, Silca Key Services, ESP Lock Corp., HPC Inc., and Auto Security Products. Key blanks supplied by Jet Hardware and Kustom key. Be sure to look for the special product review beginning on page 38. To receive more information about any products, use the Rapid Reply cards.

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Commentary

Locksmiths Need Security Too

How many times have you been called out to install additional security for a customer who has just been burglarized? It's kind of like trying to shut the barn door after the horse ran out, isn't it? Well, I hope you do feel some sympathy for your customers who have been abused by a member of the criminal element. I sympathize with them. In fact, I know how they feel.

Boy do I hate to admit this...but here goes. Last month, the headquarters for your favorite locksmith magazine was burglarized! In our own defense, I must say that we do have good locks on all the doors, and we also have an alarm system with lots of interior detection zones. However, I have come to better appreciate a strong perimeter.

It's very embarrassing as the publisher of a locksmith magazine to admit that we were burglarized. But in many ways we were rather lucky. The burglars (or 'bunglars') broke in through a side window. Landing on a desk, dripping blood from a glass cut, they boosted an expensive computer printer out the window. Then they stacked up some other nearby computer equipment, readying it to go out the opening.

Before tossing the stack through the window, our bleeding criminals must have noticed our fax machine resting on a table across the building. Evidently, one of the crooks walked across the room, took the fax off the table, and ripped the wires right out of the wall. In the meantime, however, a motion sensor picked up the intruder, and set off the alarm. The 'bunglars' jumped back out the window with the fax, but leaving behind the stack of computers, as well as many other computers which are located around the office.

The police must have thought I was an unusual victim. As I assessed the damage, I walked around the building whistling and humming. Upon my initial look, I realized that the burglary had caused us nothing more than a minor irritation. We lost nothing of extreme importance, only things which were easily replaced.

In fact, I was very relieved. Had the burglars had just a few more minutes to conduct their work, they could have caused us weeks worth of work and grief. Well, now the windows have been fitted with burglar bars, and the alarm system has been beefed up around the perimeter. We hope no one will get in again, but if they do, the alarm will pick them up sooner.

The moral to the story is that even locksmiths can get robbed. In our case, good security didn't keep them out completely. But it sure did spoil their day. With our recent improvements I hope there won't be a next time.

After a lot of consideration and some feedback from our friends, we have decided that the new look of *The National Locksmith* can be further improved. Stay tuned next month for an easier to read typeface.

We hope that you will enjoy the new refinements!



Marc Goldberg
Editor/Publisher

Letters

Comments, Suggestions and Criticisms

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length. Please address your comments, praise, or criticism to Editor, The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107. All letters to the editor must be signed.

Door Prize Recipient Appreciates Book

Dear Marc:

I received a very nice door prize at the North Carolina Locksmith Association meeting today in Charlotte. Thank you for your generous contribution to our Distributor Show and Meeting. The Flat Rate Manual For Locksmiths will be a valuable guide to me. I appreciate your support for our association.

I enjoy your publication very much and value its editorial and technical content. I look forward to receiving it each month. Keep up the good work!

Thank you again for your support for the NCLA.

Burtie S. Peeler, Jr.
North Carolina

Delaware Association Alive And Well

Dear Marc:

This is to inform you that

Delaware's Locksmith Association, The Diamond State Locksmith Association, Inc. is still alive and well after its establishment over ten years ago. The membership of over 20 is steadily growing. John L. Baker, President; Ted Gula, Vice President; and Charles Kane, Secretary/Treasurer; will remain in office until January 1993.

We appreciate this opportunity to keep you informed and will continue to update you on current events. Should you have any questions we may be reached at DSLA, P.O. Box 5162, Wilmington, DE 19808-0162.

John L. Baker
Delaware

Locksmith Encounters Murphy And Mother Nature

Dear Marc:

I know that you are familiar with Murphy's Law.

However, I wonder if you are cognizant of the fact that, on occasion, Murphy and Mother Nature team up to create truly memorable situations for us mere mortals to blunder into...just to keep us from getting bored with our lot in life.

It's true, I believe it. And the following will bear me out:

The incident that recently happened to keep me from getting bored, occurred while I was repairing a lock for a couple that

lived out in the country. I was on my knees working on the lock when I heard what I thought was the customer's dog coming down the hall to investigate. What it turned out to be was their full grown, pet mountain lion!

No fooling. There I knelt, with a hundred-odd pounds of the biggest damn cat I had ever seen outside of a zoo, staring me in the eye and purring! Now, one thing I found out...when a cat that big purrs, *it purrs!* The sound that animal was making reminded me of a well tuned, 289 with glass packs idling.

My initial and instinctive, reaction was not to run (after all, I would need more than a six inch head start to outrun it), but to reach out and scratch it behind the ears: just like I do with our cat at home. Since I am telling you about it, and have all my upper appendages intact, you can rightly assume that it was tame! You will probably not believe me when I tell you this, but it did not even make me poor ol' heart flutter. However, my kidneys were perilously close to panicking.

So, there I was, Marc, petting what, in my personal experience, was the Paul Bunyan of the feline fraternity. And the whole time I am thinking about Murphy...and Mother Nature...they're an unbeatable combination when they team up!

Continued on page 8



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Continued from page 6

There is an old adage that says "all's well that ends well." I guess so. Even the old lock was working when I left.

Jake Jakubowski
North Carolina

Get To Know Your Local Tool Dealer

Dear Marc:

I am writing with an offering of advice to all of my fellow locksmiths in search of quality tools. The greatest and most convenient source I have found is the person that drives the tool vans you see around your town/city. (Snap-on, Mac and Matco.) The driver is the salesman, and he has several specialty tools that I have found useful. He has almost anything you can imagine, and often he has the tool you need to remove a particular door panel or trunk trim. For example "Snap-on" sells a screwdriver #SSDE42B this tool is a perfect fit for Adams-Rite set screws.

It is true however that this is the person selling car opening tools to mechanics and tow truck drivers. These sales are going to be made

regardless of you being a customer or not. If you can come to terms with this you will be better for it, the benefits far out-weigh the down sides. Keep in mind he is in the business of learning about and then selling the best tool for the job.

My advice is to make him your friend; he is on a first name basis with all or most of the mechanics, body shops, and car dealers in your area. (His exclusive sales area.) I have gotten several leads and referrals from my tool dealer for the specialty auto lock work the mechanic doesn't know how to do.

Keith S. Smith
Pennsylvania

Technitip Year End Winner Says Thanks

Dear Marc:

It was a good feeling to see my Technitip for a positive stop for a rim cylinder in the November Issue of *The National Locksmith*. It was even nicer when I saw that I had won fourth prize of the year, which meant I was to receive a Belsaw 200 Key Machine, as listed in the January 1992 Issue.

My thanks goes to those who evaluated my tip that gave me this prize.

I really appreciated the \$50 cash, the watch, and the other things received as a result of winning the November tip of the month.

Thanks again for evaluating my Tip as a "winner."

Howard F. Cook
Ohio

Reader Requests Letters To Fight Illegal Tool Sales

Dear Marc:

I would appreciate any help that the readers can give me on the following matter.

The Criminal Code states that, "Anyone who uses, or possesses break and enter tools must be licensed by the Attorney General's office."

There is a law in effect and it is not being enforced to stop all those persons who are not entitled to use these tools. I would appreciate any or all support that your membership could supply in the way of a written letter stating that the Attorney

Continued on page 88



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Technitips

Helpful Hints from Fellow Locksmiths



Send me your Technitips. Who knows, you may be our next winner! c/o The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107.

by Robert Sieveking

Congratulations to all those that find their Technitips printed here this month. There are some nice Tips this month. Thank you for your continued support. I got busy this past month, and answered a hundred or so letters. If you have submitted a Tip that hasn't been published, I hope you received a reply letter. With the big increase in the monthly prizes awarded, the mail has really shot up. Every Tip published receives a prize, along with the Locksmith Bucks. If you have been hanging back, waiting for just the right time to get that Technitip in the mail, wait no longer. I know, on these beautiful spring days, we find it hard to concentrate on those things that concern business, but

customers have to be serviced and the bills have to be paid. This coming January you'll wonder why you didn't get a new key machine or set of code books. What if you get a call to make a key for a VATS equipped car in July? Wouldn't it be nice to use your new All-Lock decoder to make the key. You'll need that SPC EZ-Pull GM wheel

puller, to get the wheel off, even if it's not a VATS. Nobody can turn down "Locksmith Bucks." They're your big chance to get that technical book you've been saving for. Take a minute or two to get a Technitip in the mail. Take enough time to give good directions, and you could be one of the big winners. I look forward to reading your Tips.

These Prizes Awarded Each Month!

All-Lock A-7000 VATS Decoder

HPC Pistolpick

Silca Rubberhead Keyblanks (100 blanks)

ESP PR-13 Professional Lock Pick Set

Sieveking Products EZ-Pull GM Wheel Puller

Submit your tip and win!

How To Enter

All you need to do to enter is submit a tip, covering any aspect of locksmithing to The National Locksmith. Certainly, you have a favorite way of doing things that you'd like to share with other locksmiths. Why not write it down and submit it to: Robert Sieveking, Technitips' Editor, The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107.

Tips submitted to other industry publications will **not be eligible!** So get busy and send in your tips today. You may win cash merchandise, or even one of many key machines or code book sets! At the end of the year, we choose the winners of the listed prizes.

Last year dozens of people walked off with money and prizes. Wouldn't you like to be one of the prize winners for 1992? Enter today! It's a lot easier than you think!

Every Tip Wins 'Locksmith Bucks!'

Yes, every tip published wins a prize. But remember, you must submit your tip to *The National Locksmith* exclusively. Each and every tip published in Technitips wins you \$25.00 in Locksmith Bucks! Use this spendable cash toward the purchase of any books or merchandise from *The National Locksmith*. You also receive a Bonded Locksmith bumper sticker and decal. Plus you are now eligible for the really big prizes!

Best Tip of the month prizes!

If your tip is chosen as the best tip of the month, you will win \$50.00 in cash as well as \$35.00 in Locksmith Bucks! Plus you will receive a quartz Locksmith watch, a Bonded Locksmith bumper sticker, decal and a Locksmith Cap. Plus, you may win one of the annual prizes.

May's Best Tip

I think I have a Technitip for some of your safe oriented locksmiths. I read the Diebold safe opening article in the August issue of *The National Locksmith*, with special interest. I discovered a trick, in the late 50's, that made it possible to open these safes with little more than a rap with a 5# hammer. Outside of this, which I discovered while trying something else, this can be one monster to open with the tools of its era. It has a laminated hard plate, consisting of torch proof and drill proof layers, and getting through these can be a real picnic. Its basic strength is attested by its current age and the battering the one in the article took.

I don't have current access to one of these models, but if memory serves me correctly, you can remove the top left acorn nut, and you will find an "S-15 or S-16" stamped there. The number may be on the tip of the handle hub in some cases. The angle iron frame is another indicator for a quick ID.

There is a front bolt handle on these safes. It is a "T" handle with a round hub. The rest of the part, which goes through the door, resembles a long bolt. The handle cam is secured to the shaft by a nut and cotter key for security.

The whole mechanism is held together by the rear nut pulling against the hub portion of the front handle. All that is necessary,

to open this safe, is to shove the handle shaft into the safe and fetch back the bolt/carry bar. The ones I recall, all had three locking bolts connected to the carry bar. If you can tip the safe or vibrate the door, the bolts will slip back by themselves, as pulling tension is applied to the door. It may be necessary to use a wire tool, through the shaft hole, to catch the carry bar near the center, and draw it toward the lock. The double door interlock prevents the left door bolts from being retracted until the right door is unlocked. Use the door handle on the left door to push the "interlock" and consequently the door bolts, back. This would free the right door.

When parts were plentiful, it saved a great deal of labor to simply wrap a rag around the handle, so it would not fly off into space, and give it a good solid rap with a hammer. Push the shaft in and fetch back the carry bar.

Another comment, on a question of why Mosler hardened its locking bolt on round doors. In the late 50's, some characters from Chicago used a "rig" to move out from the lock and drill through the bolt, cutting right through the retaining screw, which the relocker settled against. Before doing this, they would drill at 3 o'clock and leave a bit inserted in the hole to effectively block out the relocker, used on some models. I believe the hardened bolt was a Mosler reaction to this method.

I hope you enjoyed a little history and experience. If you can use this method, next time, you might save yourself a little time.

Bill Henry
Ohio

All-Lock VATS Decoder Winner

Chapman alarms and security devices are excellent, and they are becoming more common in my area. If you make keys to an auto, because the customer has lost them, chances are that you will be called to make keys to the alarm also. At the very least, you may be asked to unlock or bypass the device to allow the auto to be started and moved. The Chapman device you see in illustration one is usually mounted under the dash. It controls the ignition kill, siren, and hood

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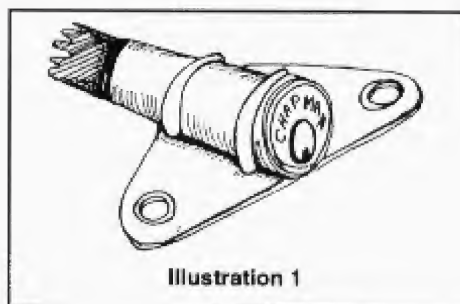


Illustration 1

deadbolting device. Until it is defeated, you will be unable to open the hood, start the car, or silence the siren.

Picking the tubular lock cylinder, which allows the spring loaded plunger to pop out, will silence the alarm and disable/defeat the system. Time and surrounding conditions do not always permit us to do what we feel would be most professional. Picking a tubular lock, with the siren screaming, in the middle of the night, and in the parking lot of an apartment complex, is more difficult than it seems.

I would like to share this Technitip on a quick and non-destructive method of deactivating the Chapman alarm. Remove the screws that secure the control to the underside of the dash. This will allow

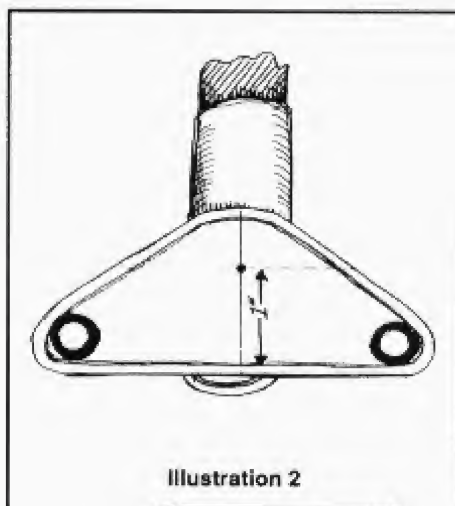


Illustration 2

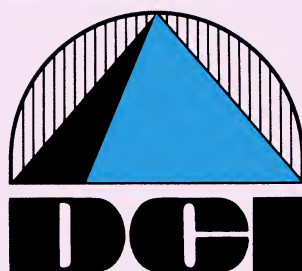
you to lower the lock to the floorboard, exposing the underside of the lock mounting plate. Center punch and drill a 1/8 inch hole, through the steel back plate, as you see in illustration two. The hole is centered on the plate, left and right, and 1 inch from the front edge of the plate. As the drill breaks through the back plate, it will depress the spring bolt, which will release the plunger lock and silence/defeat the alarm. If the drill does not release the cylinder, use an ice pick type tool to depress the spring bolt. Do not damage the bolt by drilling into it.

With the plunger out, the code for the lock can be read to make a key by code or the lock can be picked to decode the cylinder pins. Replace the control head under the dash, to complete the repair. The access hole will not damage the lock, and the job of silencing the alarm should only take a minute or two.

Steven S. Wyman
Florida

Silca Keyblanks Winner

This Technitip is to improve the organization of your key stock and keyboard. When you find a key in your key catalogue, do you know if you stock it, and where it is on your keyboard? As we constantly add keys to our keyboard, especially foreign auto keys, we write a keyboard location in the catalogue. If you find the drawing of the key, which is usually fairly easy, you can go directly to the letter/number board location to find the key. This simplifies adding new keys, and avoids having keys in stock that we simply cannot find. We also pencil in a substitution now and then, when you find a key that has the same keyway but a different head



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configuration.

Sam McCulloch
Texas

HPC Pistolpick Winner

This Technitip concerns the method I have found to remove oneway screws and shear head bolts. One way screws are common on double cylinder deadbolts and jimmy proof locks. Shear head bolts are those used to secure foreign ignition locks to the column. These fasteners can be a real problem, unless you know the tip. Take a small very sharp center punch or prick punch, and set a dimple near the edge of the screw head. Place the dimple in the sloped side of the slot, in the one way screw. Angle the punch to turn the screw counterclockwise, and tap firmly, but not hard enough to skid the punch out of the dimple. The screw will begin to turn. Continue to rotate the screw. Make new dimples as you rotate the screw and find that you can not follow the dimple completely around. After a turn or two, the head of the screw will be backed out far enough to grasp with a pair of vise-grip pliers. If the head is recessed, as is common with the

shear head bolts on late model foreign autos, you may find that the screw can be more easily turned with a scratch awl, once it is loose. If there are two phillips screws and two shear head screws securing the ignition, try this. Remove the shear head screws first.

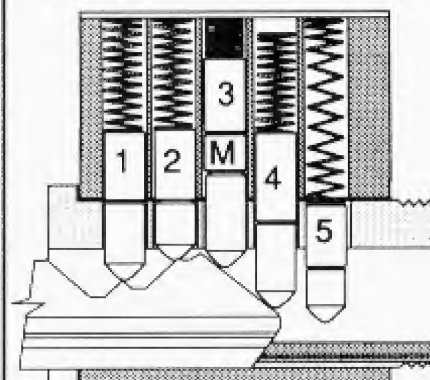
I hope this Tip helps another locksmith that is having a similar problem.

Berkley Ruiz
Georgia

ESP Pickset Winner

Here is a Technitip that I have been using for years. Many times we don't place enough importance on matching the top pins to the bottom pins. As you can see in illustration three, if the pin stack is correct, the springs have ample room to compress, and not be permanently deformed. If the cylinder is master keyed, as in position 3, the stack can become so tall as to prevent the key from being inserted. When the cylinder is not master keyed, as you see in position 4, the driver can still be long enough to damage the spring when a blank key is inserted. This leaves the spring weak or broken. When a driver is too short, as

Is the length of the top pins important?



1. Driver/stack is correct.
2. Driver/stack is correct.
3. Stack too tall, causing a jam.
4. Driver too long, spring crushed.
5. Driver too short, no locking.

Illustration 3

you see in position 5, the security of the cylinder could be lessened.

To prevent this problem, I load the bottom pins and master wafers into the plug, remove the key, and use a dial caliper to measure the depth of each pin hole. By adding .040" to these dimensions, I can easily determine the proper length for the



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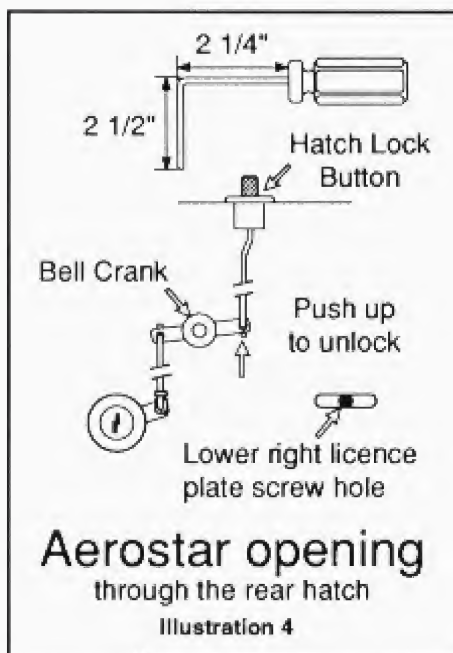
top pins. Use the "depth" rod of the caliper to measure the distance from the top of the plug to the top of the combining pins while they are "at rest," in the plug. No more guess work or crushed springs.

This is not necessary on all cylinders, but it makes the keys enter the cylinder much easier, and prevents a number of problems.

John Lee Jr.
Pennsylvania

EZ Pull GM Wheel Puller Winner

I have developed what I think is a unique method of opening most Ford Aerostar mini-vans. By accessing the lock linkage in the rear hatch, through a licence plate screw hole, there is no need to risk damage to the door weather strip or side-window glass. Illustration four shows the tool that must be made. It was made from a long thin screw driver, heated and bent as you see. The illustration also shows the lock linkage arrangement. Remove the lower right licence plate screw, insert the opening tool, with the leg at 6 o'clock, and rotate the handle clockwise. The linkage will be lifted and the hatch unlocked. Lift the



door, to open. I hope this Tip helps some of my fellow locksmiths in Canada and the U.S.A.

Shane C. Maloney
Canada

This Technitip concerns opening Gem or Ace tubular locks. I usually drill off the pin shoulder with a

special hole saw type tool, and turn the plug with a blank key. The problem I had, was that the locks were mounted "horizontally," in a floor safe. After removing the combining pins, the plug would not turn. The top pins were still in the cylinder. To eject the top pins, and free the plug, I found this simple trick. Use compressed air to clear the chips and debris from the face of the lock, then rap the safe head with a heavy hammer. The shock of the hammer will "jump" the pins out of the cylinder, freeing the plug/rotor.

Tom Seager
Michigan

This may not be the best Tip, but I find it helpful on some of the newer autos and vans. The door panels are contoured and shaped, so you can not easily see the lock button from the side glass. Some horizontal buttons can only be viewed through the windshield. I use a small mirror with a swivel base. It is mounted on a suction cup, so it can be placed on the windshield while I open the car. The mirror is placed in such a manner as to let the locksmith have a clear view of the lock button as he



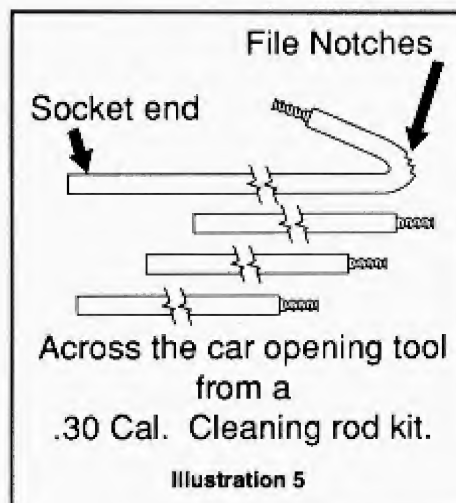
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manipulates the linkage with the opening tool. If the opening is at night, let someone hold the flashlight. Send them to the other side of the car and ask them to hold the light on the button. The flashlight helps keep onlookers occupied and quiet, so you can concentrate.

Charles C. Cash
Indiana

A jointed "across the car tool," is a valuable tool in my bag of car opening tricks. The one I use was made from a .30 Cal military cleaning rod. Cleaning rod kits are available from military surplus stores for around \$6.00 a set. You will need two sets, to make a long enough rod. The military style rods break down to 6-1/2 inch long sections, allowing them to be stored in any opening kit, and the screw connectors are stronger and more stable than many car opening tools of similar manufacture. Form the tip section of the tool as you see in illustration five. Heat the metal with a torch, and bend approximately 1 1/2 inches of the tip to an acute angle as you see. This will allow you to "pull" an opening handle or



manipulate a lock button. Use a triangular file to file sharp teeth in the end of the bend, for "pushing" those slide buttons that move toward the front of the door. You will have a few extra rod sections, if you purchased two cleaning kits, so be creative. Fit the tool to the need, if you find that the hook shown here is not just right.

Larry Kanzer
Pennsylvania

Most locksmiths give up on depth and space keys, opting for a code

machine, because they become frustrated trying to use standard depth and space keys.

Commercially available depth and space sets are marked 111111, 222222, 333333, and etc. All the spaces on each key have the same depth. When using the space key, a slip of the key undercuts or over-runs an adjacent cut, and the key is ruined. Standard space keys do not have a ramp, between the cuts, to help form the proper angle on the sides of the cut.

Try this. Make a set of depth and space keys following this guide. Number one key (using Kwikset as an example) is cut 0 2 0 2 0. Number two key is cut 2 0 2 0 2. Number three key is cut 1 3 1 3 1. The fourth key is cut 3 1 3 1 3. Continue, in this pattern, holding a two step cut difference between adjacent cuts. There will still be the same number of keys used to make the depth and space set, but if you use these keys for a few days, you'll throw your old set in the scrap. This set is much easier to use than commercially available sets.

Terry Simons
Texas

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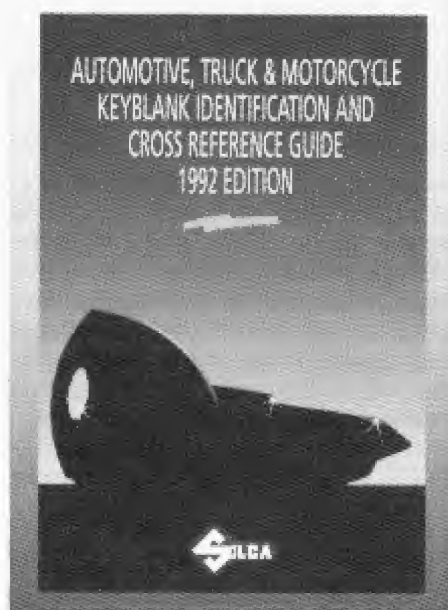
New Products and Industry News

Silca Announces '92 Automotive Guide

Silca Key Services announces the availability of the 1992 edition of the Silca Automotive Truck & Motorcycle Guide. Silca believes that this book is the most up-to-date and complete guide in the industry, giving valuable information as to which blanks to use for a variety of vehicles. Located in the back of the guide are a series of cross-reference lists for further assistance.

These guides are available upon request. Locksmith reception to previous guides has been tremendous; the guide should be a part of every locksmith's reference library.

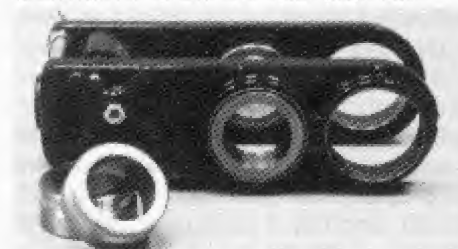
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Mas-Hamilton's X-07, Government Approved

The General Service Administration (GSA) has awarded the Mas-Hamilton X-07 unprecedented approval for government use. The new self-powered computerized combination safe lock met the GSA's highest specifications for use on government containers that store classified material which include top secret and higher.

This week's announcement marked the culmination of three years of intensive research and development by the recently formed Mas-Hamilton Group, team of former IBM design engineers and former government security experts. The X-07, already certified by Underwriter's Laboratories (UL), is the first truly new development in lock design since tumbler locks were invented in the mid-1800's.

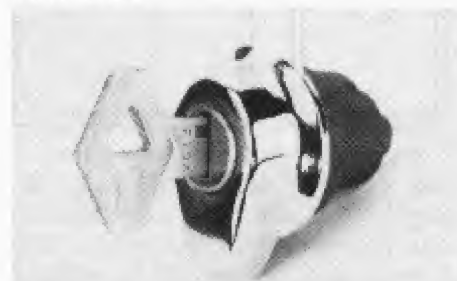
The X-07 is a totally self-powered computer-controlled dial lock that was devised to withstand all known forms of surreptitious entry, including robotic manipulation. This user-friendly combination lock system is expected to meet a broad spectrum of security needs both inside and outside the government.

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New Slam Lock/Latch From Briggs & Stratton

A new lock with knob turn actuation has been introduced by Briggs & Stratton Technologies. The lock features an independent rotating lock cylinder that permits key removal in the locked and unlocked position, dust shutter and reversible key. A special lever attachable to the rear of the lock, allows for a slam to close operation. Exposed knobs are chrome plated Zamak with stainless cylinder trim.

Ideal applications for the lock include: tool boxes, storage boxes, lockers and interior/exterior enclosures. Briggs & Stratton industrial locks are represented nationwide.



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Weiser Lock Reduces Lead Time

Weiser Lock has reduced lead time on all orders to provide three week delivery, effective immediately, according to Mark J. Studley, president. The improved service applies to all orders to the company including job orders.

"We are able to provide the highest quality of products as well as faster delivery by a combination of advanced computer software and the refining of manufacturing techniques and control, including certification of key suppliers," Studley said.

"Now customers can save money by reducing their inventories of Weiser Lock products. They can be confident that their order will be expedited through all the steps of manufacture, assembly and shipping to insure delivery within three weeks of our receiving it," Studley added.

He concluded that current fill rates are at an all time high of 98 percent and the company is continuing efforts to achieve its goal of 100 percent complete and on-time delivery.

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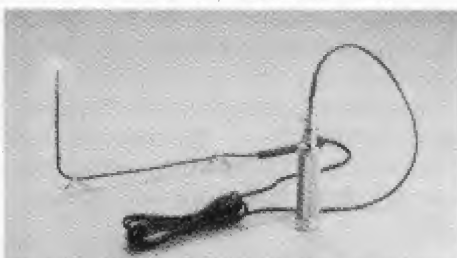
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MDS Inc.'s New FlexCord Lite™

MDS, Incorporated has introduced a new Flex Cord Lite™ in three models. All three designs are available with a 10" or 17" totally bendable coaxial cable. The Flex Cord Lite™ adapts to all MDS Focuscope™, Magna-Scope™ and Welch Alyn® power handles.



The standard model uses a 3-volt bulb and has a 4 foot power cord. A 4.5 volt version is available with super-bright Krypton Bulb. Since 4.5 volt volts are needed, an extension sleeve for the MDS power handle is available. This allows three, "C" batteries to be used together.

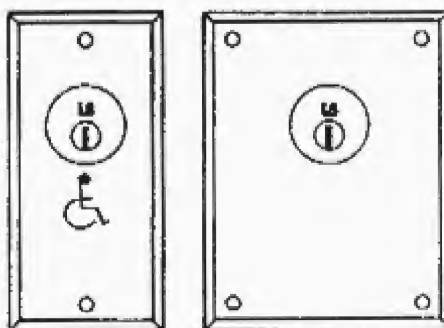
In addition, a specialty 12 volt model is available. It and comes with two alligator style clips at the end of a 10 foot power cord.

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DiMark Debuts Switch Plate Kits

DiMark International recently introduced a new line of switch plate kits manufactured by L & S Products.

The kits can be used with standard 1" to 1-1/4" mortise cylinders. Now when the job requires a switch lock to be included in the key system, the locksmith has a simple and professional way to mount the mortise lock and switch!



The plates are available either 1-3/4" or 2-3/4" wide and are 4-3/8" high. They are now available in aluminum (28) or duronotic (40) finishes and come with or without "Handicap" embossing.

Each kit includes a switch (SPST-Normally Open), mortise lock nut,

and 8/32 security screws. Rubber gaskets are included in wide kits for outside use or are available separately. Models are available to fit standard electric boxes.

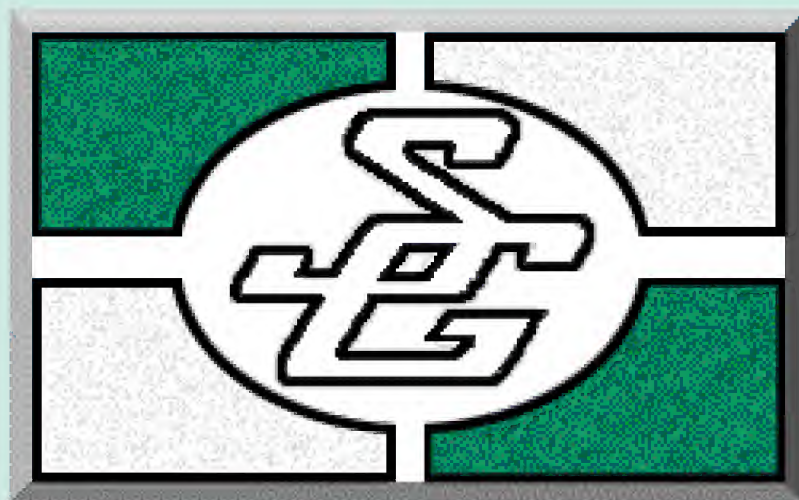
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Fort Lock's New Product Display Boards

Fort Lock Corp. announces new product display boards for the multi-function product line. There is a board for the 3000 series single bitted, the 9000 series double bitted, the 1000 series tubular, and the A000 series tubular.



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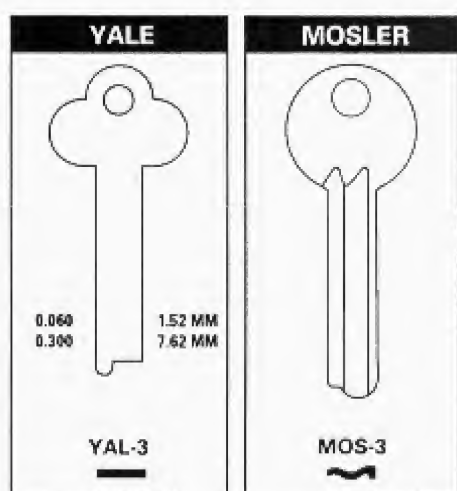
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Jet's Safe Deposit Key Blanks

Jet Hardware announces the release of six new nickel silver safe deposit key blanks. The release, covered in their supplement No. 191.13 covers locks made by Diebold, Herring Hall Marvin, Mosler and Yale.

All of the safe deposit key blanks will be following an alpha numerical numbering system with the first three letters indicating the lock that they were designed to fit.



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Scotsman Moves To New Facility

Scotsman Security Products' proudly announces occupation of their new facility in Pioneer, CA. The foothills of the Sierra Nevada Mountains offers a relaxed and peaceful place to live while Scotsman continues to compete worldwide.

The Irmers take pride in producing high quality tubular key machines, tubular key blanks, and DorGards with a "Made in U.S.A." pride of workmanship. Their goal is to keep the quality superior while refining and streamlining the manufacturing operations to keep costs down.



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Ambassador's New Two Hour Fire-Rated Safe

Ambassador Safe Company introduces a new two-hour fire-rated gun safe. This safe was developed to meet the need for a medium priced container to give both fire and security protection to gun owners. The standard interior provides for the storage of 18 long rifles along with a lockable built-in drawer which provides ammunition storage and more.



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by Tom Seroogy

Door Replacement

"If you're like me, if it turns a healthy profit, I'm willing to become a handy-man for a few hours."

As a locksmith, I often find myself caught between the need to replace hardware versus the need to replace the door to which the hardware is attached.

While a customer may call me out to fix what they believe to be defective hardware, the actual problem may lie in a door suffering from hinge-sag, split seams, hinge bind, rusted jambs or a myriad of other ailments common with doors. In this case, fixing the hardware may either not be necessary, or would only serve short-term.

At this point three solutions remain. One, tell the customer they need a "door-man" or "handy-man," and try to collect for the

service call. Two, beat the door into submission long enough to get paid. Or, three, replace the door.

If you're like me (even though door replacement lies on the fringes of locksmithing) if it turns a healthy profit, I'm willing to become a "handy-man" for a few hours.

And, so, it recently was, as one of my accounts asked me to repair the exit hardware on one of the warehouse doors. I arrived to find that the hardware, though worn, was still very functional. The problem was a door that had heavily rusted and a seam had split.

To start, we identified the "handing" and "bevel" of the door. Because there are so many ways to

define the handing of a door, I will explain using the method and nomenclature with which I was taught.

First, stand outside, looking into the building (or office, room, etc.). The handing will be the side that the hinges are on. If the hinges are on the left, it is left handed. If they are on the right, it is right handed.

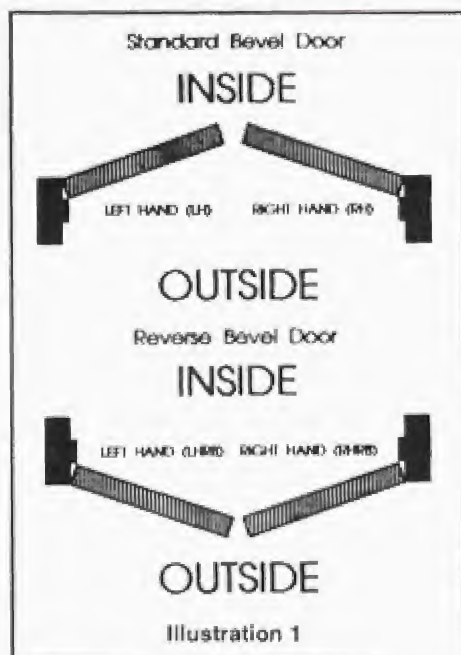
Now, even more critical, and harder to remember, is the "bevel." Simply put, standing in the same position, does the door open into the building or out towards you. If the door pushes into the building, it would be considered a standard door. If the door pulls out towards

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you, it is considered a "reverse bevel." (See illustration 1.)



As an example, as we stood outside-looking-in at the door on this job, the hinges were on the right. We easily deduced that it was a right-handed door.

Now, standing in the same position we noticed that the door pulled out towards us, meaning it had a reverse bevel. This door is properly described as a "right hand reverse bevel" (RHRB) door.

Some would incorrectly call this a left-hand door. This is done because some have been taught that the hand of the door is determined by standing on the side where the door pushes away. If this were the case, then all doors would be either right

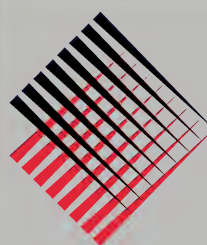
or left handed and bevel would not be critical. This, however, is not the case.

While the "reverse bevel" seems to complicate matters, it is critical for the locksmith to know the difference. As an example: A large hospital that I service remodeled a portion of their basement. The carpenter/contractor was to supply the hardware and I was to key it.

The hardware he was to use (Corbin security bolts) required that both the handing and bevel be distinguished. He based his ordering on the incorrect handing method mentioned above. So, on ordering

the equipment he did not state the bevel. The result was that much of the hardware could not be used, and had to be reordered...a loss in time and expense for the carpenter/contractor.

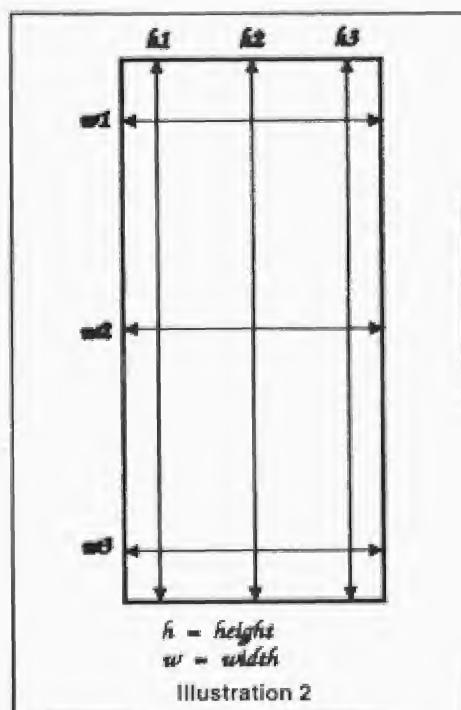
Next, we made three measurements of the frame's height and width. (When the door is in better shape I prefer making the measurements off of the door. Either way, let the supplier know where the measurements were taken from.) On the height we measured the two ends and the center. On the width, we measured the top, middle and bottom (See illustration 2.) This was



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3. Both the door and frame were measured to make sure the new door would properly fit.

done to make sure there wasn't any bowing or frame distortion that would affect installation of the new door. (See photograph 3.)

Then, we took the hinge measurements. These measurements are made from the inside-top of the frame to the top of each hinge (see *Illustration 4*). The hinge backset is another critical measurement and is the distance from the door-stop to the edge of the hinge. This measurement varies from 1/4" to 5/16" depending on the manufacturer. (See *Illustration 5*.)

After taking the measurements, we contacted a local door supplier. Finding good suppliers that are willing to help and work with you are

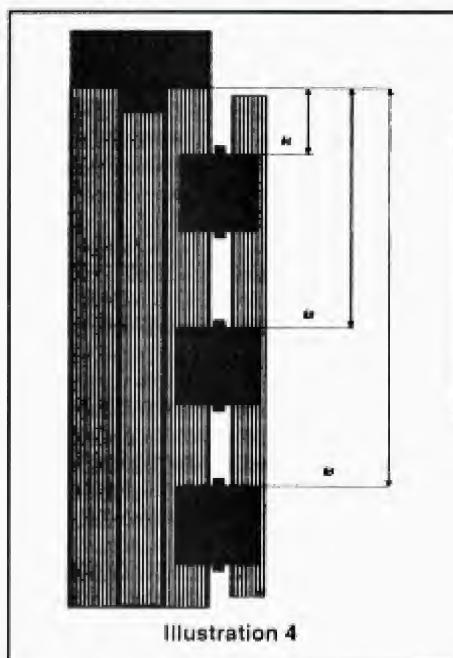


Illustration 4

hard to find. It took nearly two years before we found this particular supplier. He helped us to identify the door by our measurements, which, fortunately, was the type of door he was able to supply. With a new door and set of hinges, we returned to the installation site.

From this point on, it was simply replacing the door. First, all the hardware was removed. Each piece, along with the screws, were

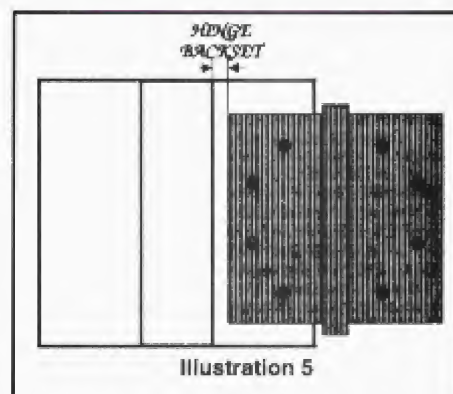


Illustration 5

put carefully aside so they would not be lost. (See photograph 6.)

Next, the old door and hinges were removed. Some of the screws that held the hinges on were rusted and needed to be drilled out and the holes retapped. The new hinges were then loosely attached to the frame. Leaving them loose helped while we tried to maneuver the new door into place and attach them. (See photograph 7.)

Maneuvering the new door into place, we fastened and tightened the hinges. It's at this point that the process slows. After having the door hung, it was now necessary to make minor adjustments so that it would hang properly. (See photograph 8.)

There are two directions of adjustment that can be made at this



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6. Removing the hardware.



7. The new hinges are installed.



8. The new door is set into place and the hinges tightened.

point: horizontal and vertical. All adjustments are made by placing shims (usually pieces of spring-steel banding) behind part of one or more hinges.

The horizontal adjustment moves the door in a left-right movement. This type of adjustment is usually used to correct hinge-bind or a door that hits or rubs the door jamb while closing. Hinge-bind is where pressure from misaligned hinges or the wrong hinge backset causes the door to spring open and not close tightly against the strike-side door-stop.

The vertical adjustment is actually a clockwise or counterclockwise tilt



9. Shimming and adjusting the door is one of the most time consuming yet critical aspects of installation.

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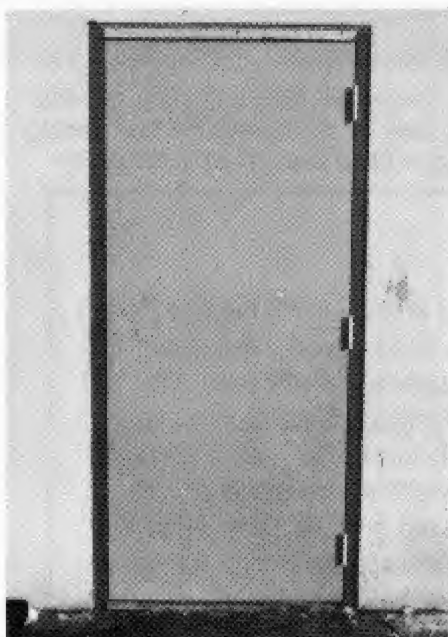
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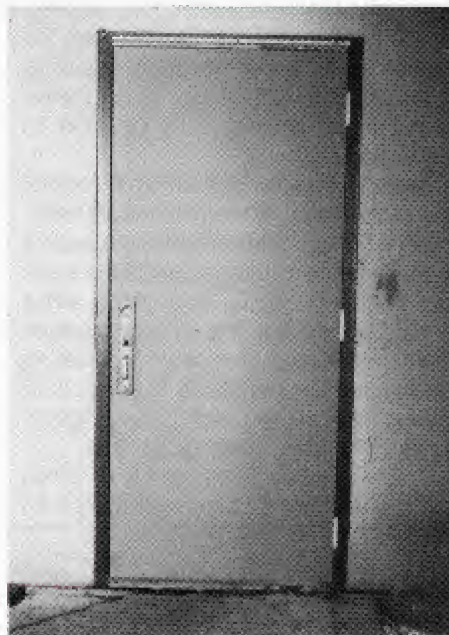
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of the door. This adjustment is used if the door rubs the threshold or top of the frame.

With the hinge screws tightened, we slowly closed and observed the door. About two inches before the door made contact with the door-stop, it stopped and sprung back open. This was a sign of hinge bind, where one or more of the hinges is



10. New door after shimming.



11. The finished product...

closed before the door is actually seated on the door-stop.

To correct this, we placed two pieces of shim stock behind the outside edge of each hinge. (See photograph 9.) This made the pin side of the hinges tilt towards the inside of the doorway, alleviating the binding of the hinges. The door shut perfectly. (See photograph 10.)

The final step was reattaching the



12. ... complete with hardware.

old hardware. Taking the measurements off of the old door, we remounted the exit device, door closer, and alarm contact. (See photographs 11 and 12.) This type of job is a natural outcropping of locksmithing. If you find that a customer's door needs replacing, consider doing the job yourself instead of referring that profit to another. \$

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Trade Talk...

Installing A Power Access

"The operator arm does not attach to the door. A roller attached to the arm, rolls the door open."

The Power Access opener was first introduced to the automatic door industry in 1978 as an economical device to help provide accessibility through side hinged doors, primarily for the handicapped. Now Power Access, fourteen years later, is in the middle of helping to solve accessibility problems related to the ADA legislation.

The most unique feature about the opener is that the operator arm does not attach to the door. The arm, by means of a roller on the end of the arm, rolls against the door to open it, and the door depends on a conventional manual door closer to shut it. This is ideal for handicapped applications because the handicapped may activate the opener as required, while others can use the door in the regular manual mode.

Any kind of dry contact signal such as a radio transmitter (like one used for the garage door), a wireless wall control, a wired wall control, a card reader, or really any type of electronic device will initiate the opening cycle. The door arm keeps the door open for 0-30 seconds depending on the setting of the adjustable time hold open potentiometer. As the arm retracts, the closer takes over and closes the door.

If door security is required, an electric strike can be interfaced with the Power Access opener so as to automatically release when the unit gets a signal to open.

There are three basic factors that determine the feasibility of applying a Power Access opener: the door geometry, the force required to open the door and the volume of traffic that will require automation.

The existing door geometry normally does not present any problem. The opener needs to be able to be installed close to the hinge point, have at least 5-1/2" head room clearance and the reveal (distance from the back of the unit to the face of the door) should not exceed 4-1/2" for the standard jamb mount opener. Consult the Power Access technical manual for dealing with variations of the basics described above.

The door should have good hinges and a good door closer so that it is not too difficult to open manually. The opening forces exerted by the opener at the start of a cycle are about 60-80 pounds. As the roller moves across the face of the door the force drops to 15-20 pounds. Generally, if the door can be pushed open manually without excessive force, the Power Access opener will be able to open the door without any problem.

While the Model 4300 was designed for use principally on low traffic volume secondary doors; it is also used on entrance doors. Because of the slower opening speed (7-8 seconds), the opener is not suitable for high traffic rate applications where all the traffic would be using the door automation feature.

The installation of a Power Access jamb mount opener (which is used in about 95 percent of the applications) is generally very easy. Prop the door in the open position, usually a little over 90 degrees, to allow for compression of the roller and play in the linkage. Remove the opener from the shipping carton (on a typical order the box will also contain the installation instructions, the controls and other accessories that might have been ordered).

Remove the cover of the unit, and carefully, plug the 9 foot power cord into a 115 volt receptacle and give the unit an operate signal by shorting the black and white push on terminals that are marked "sw" (switch). When the arm is all the way out, about 105 degrees, disconnect the power or use the toggle switch on the side of the unit. (See photograph 1.)



1. The inside workings of the Power Access opener.

Install the slide mount bracket into the upper hinge corner of the door jamb. (See photograph 2.) Now slide the unit onto the horizontal leg of the mounting bracket (as close to the heel of the door as you can). Next hold the unit up in position and mark for three pilot holes. After the unit has been removed from the slide bracket, drill the three pilot holes into the underside of the overhead, and again slide the unit onto the bracket and with a power screwdriver, install the three screws into the jamb to secure the unit. (See photograph 3.)

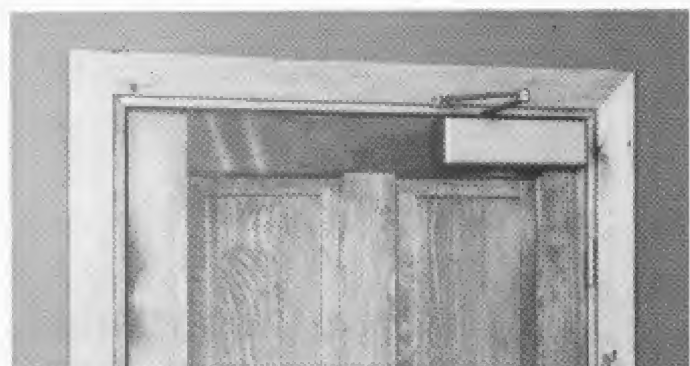
Since the arm of the unit does not attach to the door, it is necessary to have a door closer to close the door. Frequently the closer is located where you want to install the opener. Sometimes you can move the closer to the other side of the door, or, if there is a concealed closer there isn't any problem of interference. If a new closer is needed, and if it is going to be installed outside, the LCN 4040 closer would be recommended because of its ability to operate in temperatures down to -35 degrees. (For a typical closer installation see photograph 4.)



2. Installing the slide mount bracket.



3. Installing three screws to hold up the unit.



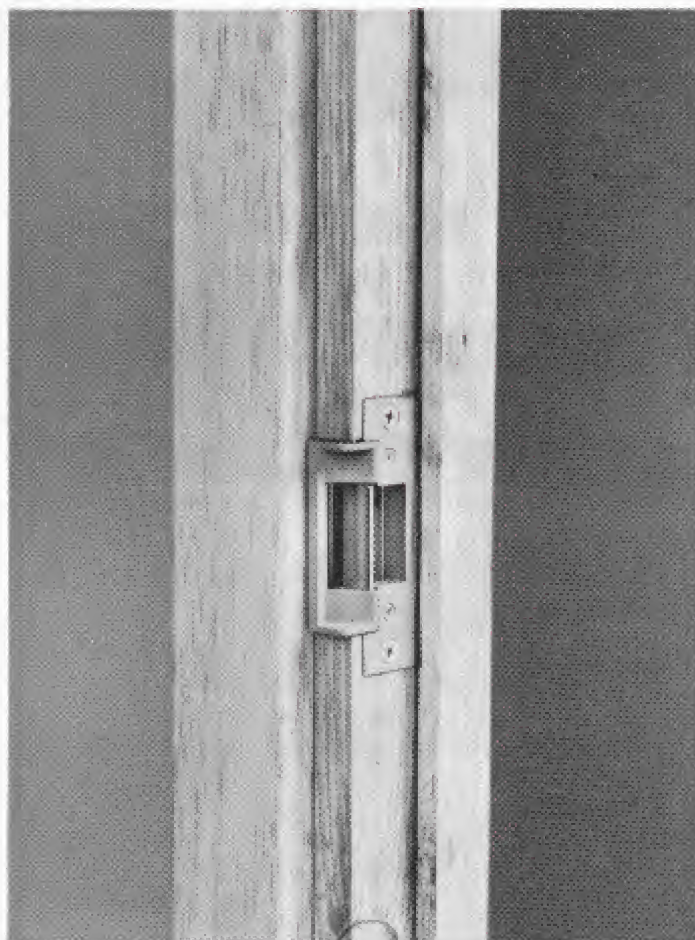
4. The LCN 4040, recommended for outside installations.

It is necessary to be sure that the door won't latch when it closes, or the unit will not be able to open the door if it is latched. If it is a commercial front door, the door will more that likely have a deadbolt that is unlocked during the day. If it is an interior door, the blank latch plate that we ship with each unit will prevent latching. If the door requires latching, or door security during the day, then an electric strike will probably be the best answer (See photograph 5.) When a unit is



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5. An electric strike is recommended for door security during the day.



6. The power cord plugged into the wall receptacle.

ordered, the company we can install a transformer in the unit to provide the necessary electrical requirements of the strike.

Plug the 9 foot power cord into a 115 volt wall receptacle and power the unit. (See photograph 6.) The arm will return to the closed position.

Now that the opener is operational, set the "time hold open" potentiometer and the "sensitivity" potentiometer. If a safety carpet is being used, hook up the two leads to

Continued on page 35



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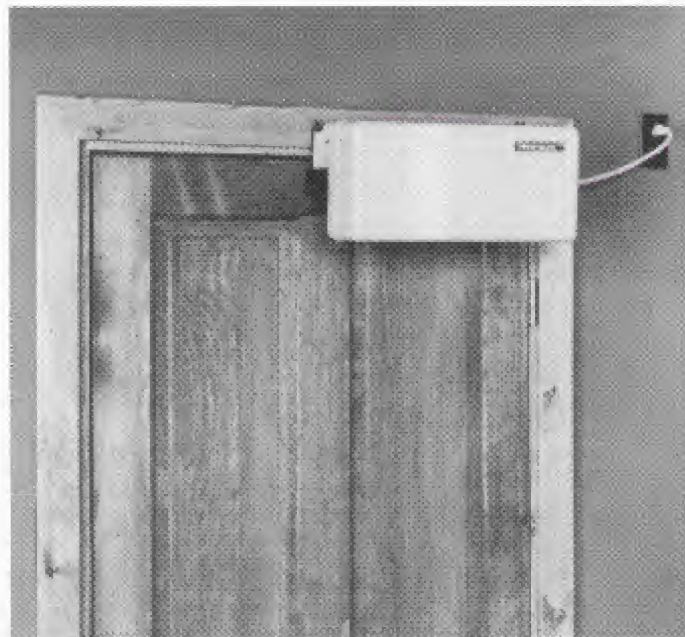
Continued from page 32



7. The residential door mounted model.

the opener circuit board terminals marked "inh" for inhibit.

In residential applications where the door usually opens in from the outside, the best approach for automating the door is to use the door mount model. (See photograph 7.) This unit mounts "up side down" at the top of the door on the inside, protected from the weather and possible vandalism. (See photograph 8.) The arm is lined up with the top of the door frame and the arm pushes away from the frame to open the door. It is necessary to be sure that there is at least 9" of clearance behind the door, so that the door will be able



8. An inside view of the residential unit. It mounts inside to protect it from the weather and vandalism.

to open to a full 90 degrees. Door mount models come with a door mounting bracket. (See photograph 9.)

Typically, residential applications employ radio controls where the transmitter might be on a wheel chair, while commercial and industrial applications might use wired controls or the easier to install wireless controls. If possible, wall controls should be mounted in an inconspicuous spot, so that the able-bodied will be more likely to use the door manually, and those that need



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9. The door mount model which comes with a bracket.



10. The wall control should be mounted near the door.

assistance will use the door automatically. Other times, however, the control needs to be near the door. (See photograph 10.)

The feature of the arm not being attached to the door, the ease of installation and the low initial cost and ownership cost have resulted in thousands of varied and satisfied customers. Some notable customers are: the University of Wisconsin (over 500 units), the US Social Security headquarters in Baltimore, MD (over 130 units), the California Department of Motor Vehicles (over 40 units) and Wright Paterson AFB Force Base (over 50 units).

For more information, contact: Power Access Corp., P.O. Box 235, Collinsville, CT 06022, (203) 693-0751. §

CCL Security Products

CCL Security Products' manufacturing plant is located near the center of New Britain, CT, just a few blocks from where, over a century ago, it began as Corbin Cabinet Lock. Today, CCL Security Products continues to make high grade padlocks and cabinet locks for a wide range of applications for the locksmith and other related security fields.

One of CCL's most noteworthy padlocks is the Sesamee combination padlock. The Sesamee is the original keyless resettable padlock. The user of the Sesamee padlock may reset the combination quickly and easily at any time to a three or four digit personal combination number which can easily be remembered. The internal locking mechanism of the Sesamee padlock is constructed entirely of brass material with phosphor bronze and stainless steel springs. This assures long term reliability and resistance to corrosion in severe outdoor conditions.



The CCL Sesamee padlock.

The No. 400 and No. 500 series of Sesamee padlocks are available in 13 different configurations. The Sesamee can be supplied with chrome-plated, case-hardened steel shackles that resist sawing or with solid brass shackles for marine applications and harsh climatic conditions. Shackle clearances of 1" and 2-1/4" are standard.

The Sesamee padlock body is

made of solid brass and as an option can be furnished in a polished chrome plating that enhances the appearance of the padlock with a lustrous mirror-like finish. For the cost-conscious consumer, Sesamee padlocks are available with heavy zinc die cast bodies finished in a satin black epoxy. The No. 500 series can also be furnished with plastic bumpers to minimize rattling and marring of other surfaces.

CCL's most popular keyed padlocks are the 1-1/2" wide, die cast No. 66 series padlocks, more commonly called the "HUSKI" padlocks. They are regularly keyed to the "CAT" and "AUE" key series and may also be masterkeyed. The case-hardened steel shackles are available in 3/4", 1-1/4", 2-3/4" and 5" clearances. "HUSKI" padlocks also feature a removable plug which can easily be rekeyed.

Huski padlocks are available with a brass identification tag attached to the shackle. The Huski series padlocks are an excellent selection for general

Continued on page 88

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9. The door mount model which comes with a bracket.



10. The wall control should be mounted near the door.

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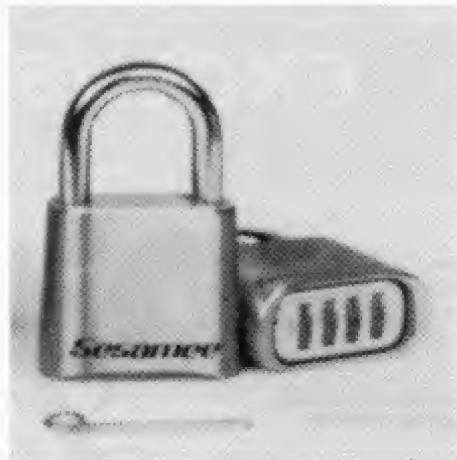
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One of CCL's most noteworthy padlocks is the Sesamee combination padlock. The Sesamee is the original keyless resettable padlock. The user of the Sesamee padlock may reset the combination quickly and easily at any time to a three or four digit personal combination number which can easily be remembered. The internal locking mechanism of the Sesamee padlock is constructed entirely of brass material with phosphor bronze and stainless steel springs. This assures long term reliability and resistance to corrosion in severe outdoor conditions.



The CCL Sesamee padlock.

The No. 400 and No. 500 series of Sesamee padlocks are available in 13 different configurations. The Sesamee can be supplied with chrome-plated, case-hardened steel shackles that resist sawing or with solid brass shackles for marine applications and harsh climatic conditions. Shackle clearances of 1" and 2-1/4" are standard.

The Sesamee padlock body is

made of solid brass and as an option can be furnished in a polished chrome plating that enhances the appearance of the padlock with a lustrous mirror-like finish. For the cost-conscious consumer, Sesamee padlocks are available with heavy zinc die cast bodies finished in a satin black epoxy. The No. 500 series can also be furnished with plastic bumpers to minimize rattling and marring of other surfaces.

CCL's most popular keyed padlocks are the 1-1/2" wide, die cast No. 66 series padlocks, more commonly called the "HUSKI" padlocks. They are regularly keyed to the "CAT" and "AUE" key series and may also be masterkeyed. The case-hardened steel shackles are available in 3/4", 1-1/4", 2-3/4" and 5" clearances. "HUSKI" padlocks also feature a removable plug which can easily be rekeyed.

Huski padlocks are available with a brass identification tag attached to the shackle. The Huski series padlocks are an excellent selection for general

Continued on page 88

Key Machine Review

Auto Security's New Machine

Auto-Security Products introduces a one-of-a-kind key machine, the TU-1000. This punch-type machine will also duplicate. The TU-1000 not only cuts car keys by code but it also duplicates most popular vehicle and house keys.

The machine comes ready to go with space and depth attachments for most of the popular cars already on the market and when new cars come out you can get the new attachments for about \$30.



Circle 362 on Rapid Reply

City Lock & Safe Provides Key Punch

Key Punch, distributed by City Lock & Safe and manufactured by Armbruster Tool is an original, coding machine used for over 15 years in the industry (formerly called Key Mac). Because every machine is of machined sand castings, tool steel moving parts, a depth slide for 4 second cutting of a 6 pin key, and has a decoder for measuring worn old keys, the owner is assured of many years of exact cutting.

Key Punch chose not to make a machine to cut various keys because most users are working with primarily one or two makes of locks, making the purchase of two Key Punches less expensive.



Circle 363 on Rapid Reply

Commercial Van's Sloped Base

The KMB-18 and KMB-36 Sloped Key Machine Bases from Commercial Van Interiors are designed as a comfort and convenience accessory for use in the mobile locksmith's van or truck. Available in 18" and 36" lengths, for one or two machines, these bases tilt code and key machines towards the user for easier viewing of indicators and cutting operations.

Features include sturdy 14 gauge steel construction, a durable grey powder coat finish (with an optional ribbed rubber mat surface) and a simple power cord management system.



Circle 364 on Rapid Reply

The Borkey 190 Clou

The Borkey Model 190 Clou machine is designed for cutting rectangular notches on single and double-bit keys. It gives excellent service when cutting European style double bit safe keys of all types.

It is equipped with three cutters and feelers in sizes 1.0mm, 1.5mm, 2.0mm, corresponding approximately to .040", .060", and .080". Feelers are individually preadjusted to the machine, so they may be quickly changed without requiring recalibration.



Circle 365 on Rapid Reply

ESP's 3000 Machine

ESP builds the ugliest key machine in the market place. Now it's true that we have tried to dress it up. We even sent it to finishing school. We have failed miserably. It's still ugly, but if you don't mind cutting keys in the dark so you don't have to look at our machines, that might solve the problem. It's important to note however, that if you start cutting keys in the dark with our machine, you're going to be a while. It might be ugly but it works like crazy.

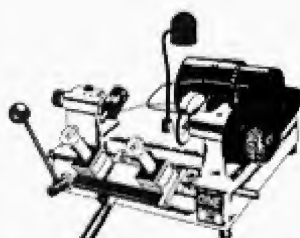


Circle 366 on Rapid Reply

HPC's One Machine™

HPC's One Machine™ is a semi-automatic heavy-duty key duplicator that is manufactured in the U.S.A. It has standard thread parts, which enable the machine to be adjusted without the use of special metric tools. It comes with double-sided reversible jaws that hold the hard to clamp foreign car keys by the keyway and are able to hold all standard keys on the flat side. The jaws are slotted for tip stop keys allowing for easy alignment.

The One Machine™ comes equipped with a separate momentary switch for easy deburring of keys.



Circle 367 on Rapid Reply

The ITL 9000 Code Machine

The ITL 9000 computer code machine now has over 600 sets of manufacturer spaces and depths built in with room to enter 160 user sets of spaces and depths. This additional space will allow the locksmith to update his machine in his own shop instantly when any new car or lock comes out.

The speed of the machine has been increased and now the time to cut an average key code has been reduced to 24 seconds.

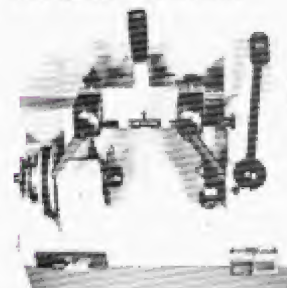


Circle 368 on Rapid Reply

Jet Hardware's "PRO-SR."

The "Pro Sr." extra heavy duty semi automatic key machine from Jet Hardware Mfg. Corp. is constructed with extra heavy-duty castings and is driven by a 1/4 hp motor. It comes with a three year or 30,000 key blank warranty, whichever comes first.

The Pro Sr. features strong reversible gripping vise jaws designed to accurately align from either the shoulder or tip of a key. It has long index type vise jaw handles and a 3" diameter high speed cutter. It has a unique heavy-duty carriage spring providing uniform pressure against the key guide and cutter.



Circle 369 on Rapid Reply

Keydex Int'l.'s Keysaver® Holder

Keysaver is a unique product that everyone can use and will want because it will keep them from ever being locked out of car, house, or office again. Keysaver holds virtually every size auto and house key.

Keysaver comes in four tasteful colors and is available in high-impact full color, counter top display or blister card packaging.

American manufacture and quality material mean eye appeal and customer satisfaction.

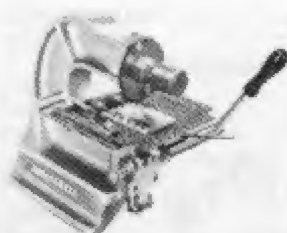


Circle 370 on Rapid Reply

Numberall's Easy Key Marking

A line of specialized key marking equipment is being featured by Numberall Stamp & Tool Co., Inc. This equipment is ideal for hotel and motel industries where large quantities of keys must be quickly stamped with identifying numbers and letters.

The equipment ranges from the economical Model 23 Typeholder to the Model 137 motorized bench marking press. Included is the Model 40B which features a large easy-to-read dial and a carriage table which automatically advances after each impression.



Circle 371 on Rapid Reply

Rytan's New Key Duplicator

Rytan introduces the new RY700 semi-automatic key duplicator with: spring loaded semi-automatic key carriage, full-function key gauging for bow, tip and Best® keys; vise jaws to accommodate large headed and long keys; 80mm cutter; dual ball bearing cutter head; built-in wire brush; and 115 V.A.C. motor that works on Redi-Line®. Options include 12 Volt D.C. motor, 0.045" carbide slotter kit and lamp kit.

The unit measures 8" H x 13" W with lever handle up, depth 13-1/2" and weighs 28 pounds.

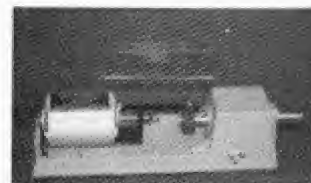


Circle 372 on Rapid Reply

Scotsman 747 Econo Machine

Scotsman's 747 Econo, their economy tubular key machine is so versatile that it can stay in your shop duplicating tubular keys in any position or any depth, or it can with you to your job locations for on-the-spot service to your customer.

The simplicity of design allows even the novice locksmith to duplicate keys quickly and accurately. However, if you want to cut to code, decode, and correct errors in the original keys, you will need the Scotsman 747X or the Scotsman 747XU key machine.

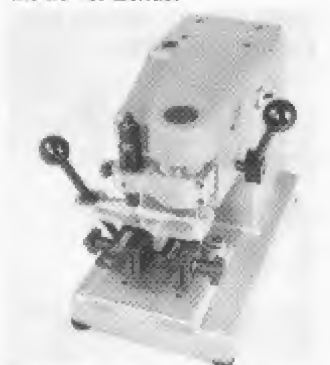


Circle 373 on Rapid Reply

Silca's Club Jr. Is Newest Addition

Silca's Club Jr. is the newest addition to their line of top quality key machines. The Club Jr. duplicates all laser/sidewinder keys like those on Mercedes, BMW, Volvo, Infiniti and Saab; it has a variety of options available for other specialty high security keys. The Club Jr. holds adjusting tolerances as fine as .0015, which is important when duplicating high security keys.

The standard 2.5 mm cutter and tracer shipped with the machine duplicates all laser/sidewinder keys including the newer Lexus.

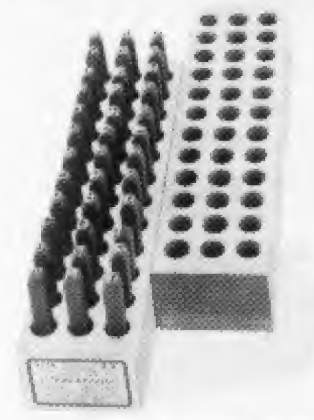


Circle 374 on Rapid Reply

Young Bros. Stamp Combination Set

Young Bros. has a 36-piece combination letter and figure set at a low price.

The Gruv-Grip combo holds a complete set of machine-made letters (A-Z plus period) and figures (0-8) of one size in a sturdy wooden box with lid. The Young Bros. combination set means sharp, clean impressions for your customers and better profit margins for you. And the combination set is less expensive than buying individual letter and figure sets.



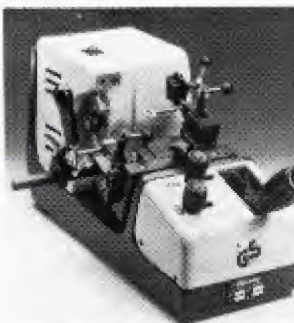
Circle 375 on Rapid Reply

DiMark's Borkey 173 Lord II

The Borkey Model 173 Lord II machine is well-suited for precise duplication of safe deposit keys as well as heavier slotted keys like Folger Adams.

Extra long keys are no problem since the jaws are staggered on the machine. The machine is normally provided with a stepped down guide and cutters to match in sizes 1.0mm, 1.5mm, and 2.0mm which correspond to approximately .040", .060", and .080".

However, for special applications, such as detention facilities, the jaws are modified at no additional charge to allow firmer gripping of these keys.



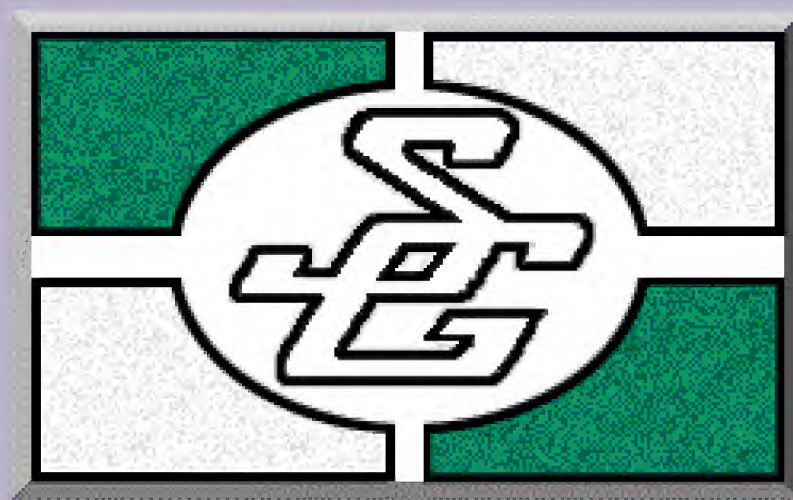
Circle 376 on Rapid Reply

ESP's 5000 Key Machine

As you have seen advertised in *The National Locksmith* magazine "Don't worry we'll make more." Well, it's true ESP is making more key machines than ever before, so for those of you who have taken our advertising to heart, thank you. Those of you who are looking for a quality key machine, try an ESP key machine built for the long haul. Shown here is the Model 5000.



Circle 377 on Rapid Reply

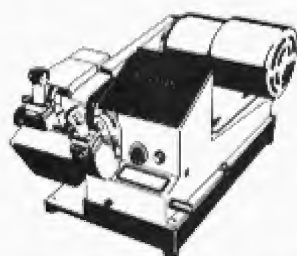


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HPC's /Automate™ Key Duplicator

HPC's Automate™ is a fully automatic key duplicator. The completely automatic action allows for total hands-free operation. The entire cutting cycle of the Automate™ takes only 20 seconds. It has reversible jaws which allow it to cut a wide variety of keys. The spring loaded carriage assures consistent duplication. The machine is designed to cut accurate keys effortlessly. It is available in two different models 6666HQT (High Quality Tool Steel Cutter) and 6666HQC (High Quality Carbide Cutter).



Circle 378 on Rapid Reply

Jet Hardware's "Pro Jr."

Jet Hardware's heavy duty semi-automatic machine is constructed with extra heavy-duty castings and is driven by a 1/4 HP motor. It comes with a two year warranty.

The "Pro Jr" features accurate, strong, reversible gripping vise jaws, long index type vise jaw handles, 3" diameter high speed cutter and a wire brush. It is designed to duplicate based on key alignment both from the shoulder and tip of the keys. The unit also allows easy line-up of special pin tumbler keys.



Circle 379 on Rapid Reply

Scotsman Makes New Key Blanks

Scotsman Security Products has just completed a new key blank production line operation which will increase the quality of the key blank. Scotsman now has the capability of controlling the amount of plating each key blank receives, thereby eliminating heavy plating build-up that's so destructive to your cutters. Now you again have the option of using brass or steel tubular key blanks.



Circle 380 on Rapid Reply

The Silca Crown Machine

The Silca Crown machine is specially designed to cut tubular keys with frontal cuts and features synchronized self centering clamps which hold various diameter keys including all three of the popular sizes of Ace keys without adapters. The clamps automatically rotate the key blank proportionately as the original key is rotated. Rotation can be free through 360 degrees or set to stop in 6 or 8 predetermined positions. A micrometric adjustment allows duplication of step cuts without changing the cutter or tracer point. An optional code attachment installs instantly to cut regular Chicago and Ace keys with readjustment.



Circle 381 on Rapid Reply

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Product Review...

by Robert Sieveking

The Punch Machine™

"My assignment was to try out this code machine which uses code cards and a little bit of hand power."

What makes a tool easy to use? Straight forward design, ease of setup, good documentation, and most of all manufacturers' support are all important points, when it comes to deciding which tool will be the best choice. Anyone familiar with the HPC 1200CM will tell you, it was designed to be used by locksmiths, and is by far the fastest and easiest code machine on the market to set up and operate. Depth and space documentation, and manufacturer support are excellent. If you like the 1200CM, I'm sure you'll find The Punch Machine™ (1200PCH) equally "user friendly."

My assignment was to try out this code machine which uses code cards and a little bit of hand power to cut a key. The unit is self-contained and requires no electricity. Let me tell you about the "road test." I was impressed.

When I first got my 1200PCH, having seen it at ALOA last year, I was under the impression that it used the same cards as my 1200CM. However, it uses a slightly different type of card. In the case of the 1200CM, all keys are inserted into the key vise from the left. Because the notch is made in the key by a milling cutter, there is no need to consider the "handing" of the key blade. In the case of the 1200PCH, the

material is removed from the key blade by a punch and die.

The punch falls on the blade of the key, and shears away the notch in one bite. Because the blade of the key must be supported by a die block, to prevent the key from being deformed before or during the shearing process, we must consider the handing of the key blade.

In illustration one you'll see a

representation of a key with a flat on the left. This is a Sargent keyway. To punch this key, the flat must rest on, and be supported by, the die block as the punch shears the notch from the key blade. By inserting the key from the left side of the key vise, the key will be positioned, as you see in the illustration, with the flat resting on the die block.

If the flat is on the right, as you see in the second representation of illustration one, the key must be inserted from the right. This is a Schlage keyway. With the key inserted from the right, as you see in the illustration, the blade of the key will rest on the die block as it is punched. The rule here, is: the flat is always down, never up. If the key is inserted improperly, the punch will fall on the unsupported key blade, deforming the brass before the punch can shear the key cut.

If you will look carefully at photograph two, you will see that there are key gauges on both the left and right sides of the key vise. The key gauges are uniquely simple, in their design. They will shoulder gauge, tip gauge, and gauge from behind a notched tip, as is necessary for Best and Falcon removeable core type keys. There are no shims, clips or removeable

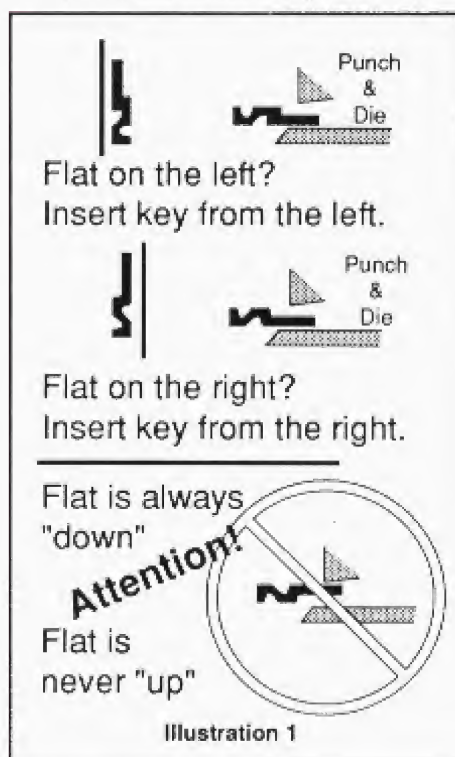


Illustration 1

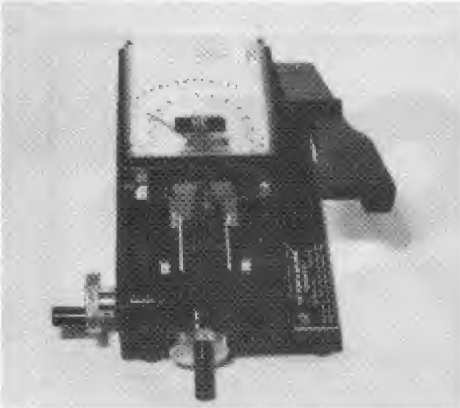
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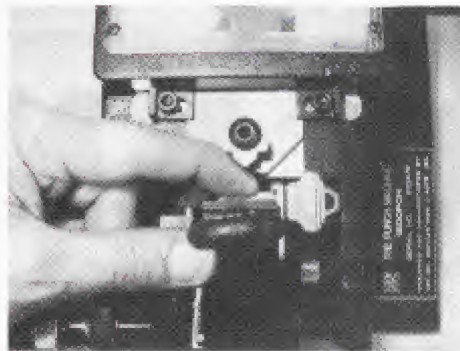
Continued from page 44



2. Notice key gauges on both sides.

gauge blocks used with the 1200PCH. The machine features a straightforward simple design. Spaces and depths are set using the appropriate code card.

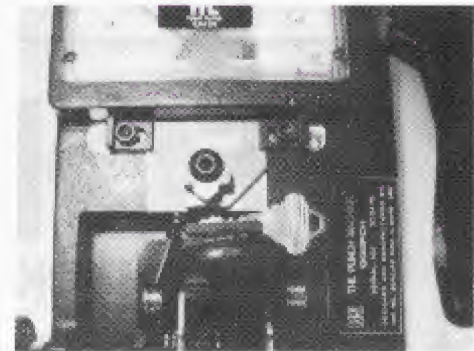
To properly chuck up a blank key, insert it into the key vise as you see in photograph three. Flip the appropriate (left or right) key gauge down, to engage the shoulder of the key, while holding the key into the base of the key vise. Place the index finger on the edge of the key blade as you see. Never hold a key by the bow, as you insert it into a key vise. This is the same basic rule you were taught when you began duplicating keys, but it bears repeating here. Slide the key against the gauge,



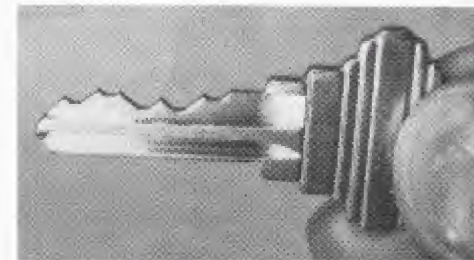
3. Keyblank properly inserted for chucking up.

secure the clamp, and flip up the gauge. You are ready to punch the first key.

The dial on the left side of the machine controls lateral movement of the key vise. This adjusts the cut spacing. The dial on the front of the machine controls the forward and backward movement of the key vise. It determines the cut depth. A code card, inserted from above, provides the micrometer scale for the space and depth indicator needles. The lever handle, on the right side of the machine, brings the punch down, to clip the notch from the key blade. A unique sliding cam action, with hardened steel slides and die pins,



4. A key originated and cut in under one minute. (Cuts 3 7 7 3 6.)



5. Close-up of the completed key.

make the cut surprisingly easy. It takes considerably less force than you might think, to clip a full thickness key blade.

Though speed is not a primary consideration here, I had no trouble originating a key in under a minute. Simplicity, again, is obvious. The key in photograph four was cut 3 7 7 3 6.



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Photograph five shows the completed key, close-up. Notice the slight rolling of the sheared edges. The punched key is burr free, and usually requires no brushing. The key fit the cylinder perfectly, and operated it without catch or bind.

Small cylinder keys, and most automotive keys will require a different die-set. Photograph six shows the PCH 1011 die-set. Notice that the number is similar to the 1011 small cylinder cutter for the 1200CM. The geometry of this die-set allows the first cut to be placed closer to the shoulder of the key than the PCH-14 die-set, shown earlier. A PCH-1014 die-set, also used for the large cylinder keys, is similar to the 14, but has a wider root, to allow Weiser and Kwikset keys to be punched without offsetting and double punching.



6. The HPC PCH 1011 die-set.

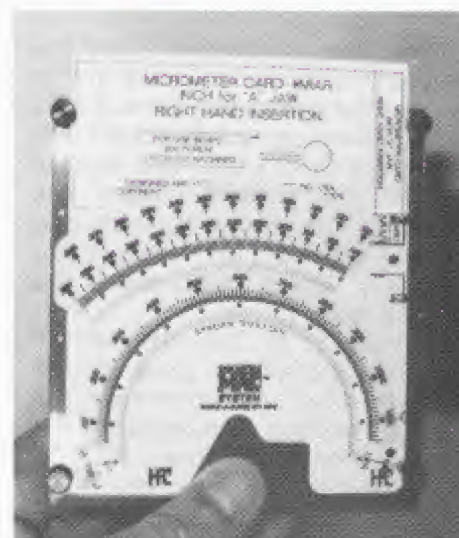
Without going into great detail, I want you to look at the simple design of the die-set. The semi-round punch is piloted in the die, for perfect alignment, without complicated alignment procedures. Three hex cap screws secure the punch and die into the machine. A die change takes about two minutes, and requires only the "T" handle hex key, provided. No complicated re-calibration or alignment is required. It's built in. The precision die plate fits snugly into a milled recess in the machine base, and is secured by two hold down straps. (Look back to photograph 4.) The die is secured by a single socket head cap screw, also seen in photograph four.

A well illustrated and comprehensive operator's manual accompanied this machine. At last, somebody started using line drawings instead of blurry, poorly reproduced photographs. There are 80 large clear illustrations, simply

explained, which should cover almost any question you might have about operation, calibration, or troubleshooting the machine. I don't think anyone will have a problem understanding the proper set up or operation of this machine.

To fully appreciate the universal nature of this machine, let's consider the code cards. The 1200PCH comes with a deck of blank cards and a micrometer card/jig for marking them. The Punch Machine™ is unlike machines that require cams and carriages for each specific vehicle and manufacturer. All you need is the correct card. The machine, you see here, solves the "extra parts required" dilemma that has limited the application of the code clipper until now.

Photograph seven shows a micrometer card in the card marking fixture. Because there are scales for left and right hand key insertions, the



7. A micrometer in the card making fixture.

marking fixture was made changeable, to accommodate both handings. A clear heavy gauge mylar lens is held by four thumb

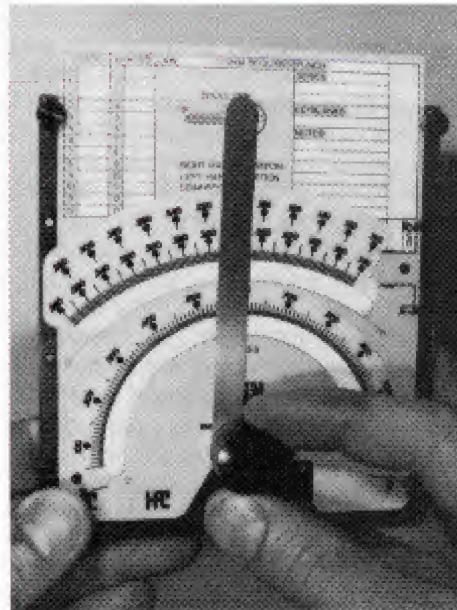


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screws, over the fixture. Place the correct micrometer card in the fixture, and select the correct lens. Move the lens to register (align) with the micrometer card, and tighten the thumb screws. There are currently four lenses, for inch and metric calibration, left and right jaw insertion. Once calibrated, the fixture is ready to use.

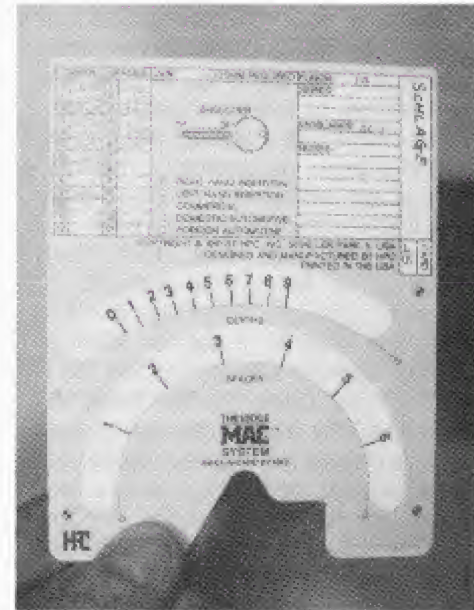
A manual, for the Little Mac™ card marking system, gives specific and detailed instruction on the correct marking sequence for the micrometer cards. The 1200PCH machine comes with a complete new HPC depth and space book. Blocks on the blank card are filled in, with information from the depth and space book, then the fixture is used, as you see in photograph eight to accurately mark the blank card. Simply drop a blank card into the fixture, and use the pivoting straight edge to mark the appropriate depths and spaces. Self adhesive labels allow the locksmith to neatly number the markings, and make them more visible. This prevents smudging and difficulty in seeing the marks. Photograph nine shows the



8. Space and depth information are transferred to the blacks on the card and the fixture is then used to accurately mark the blank card.

completed card. Making these cards is quick and easy.

The HPC 1200PCH employs some new and some existing technology to overcome many limitations commonly associated with punched



9. A completed card.

keys. Not all keyways can be successfully punched. The vast majority, however, present no problem to this machine. It is a great improvement over any other punch machine that I am familiar with, and will be a sure success for HPC.

For more information contact an authorized HPC distributor. §

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Trade Talk...

The Patriot By Medeco

"The Patriot lock program operates with a customer key credit card and a computer linked to Medeco."

There's a new Medeco lock program on the market called Patriot. Beyond its flashy name and flag-waving logo, it has several advantages to offer locksmiths and their customers.

One advantage is solid key control, backed by Medeco, that goes way beyond locking key blanks up in a cabinet. This key control prevents unauthorized key duplication, and is sought after by anyone from a condominium owner to a business.

An apartment owner in Clearwater, Florida couldn't figure out how burglars were getting into his apartment. There was no sign of forced entry, yet time after time, items were missing. His locksmith, Ed Goderre of Acme Locksmith, Inc. knew the entry had to be either by picking the lock or using a duplicate key. He recommended a Medeco restricted keyway, and they settled on the Patriot.

Why? Goderre said the Medeco Patriot program gives his customer key control, by assuring him that no one else can get a duplicate but the person who has signed the key card (similar to a charge card). The keyway is restricted, meaning that only authorized Medeco locksmiths have access to the keyblanks; and Medeco keeps control over their distribution.

But in addition, it is convenient and fast to cut a key. The Patriot lock program operates with a customer key credit card and a computer link-up to Medeco, where verification is made and all records are instantly recorded and kept.

It's as easy as a three-step process. The Patriot key card has a magnetic stripe which is encoded with data. The locksmith



The new Medeco Patriot System.

activates the card the first time it is used for key duplication requests by assigning the end-user's name to it. Each time it is used, the locksmith verifies a customer's signature on the key card, and runs his Patriot card through a data machine which is connected by modem to the Medeco Key Control Department. Medeco stores this information on computer, and can verify customer requests immediately.

Next, because of the encoded computer stripe, Medeco recognizes each individual key card and automatically supplies the locksmith with needed key code information, key cuts, the proper key blank to use, and the number of duplicates cut for this key to date. In addition, Medeco keeps a record of each key duplicated, all key blank requests, the date each key was cut and the locksmith's name and address. This entire verification and data-recording process takes a matter of seconds.

Finally, a signature receipt is signed by the customer and the

key is cut by the locksmith. Medeco keeps all records, thus saving the locksmith as well as his customer valuable record-keeping time. When new keyblanks are needed, Medeco automatically sends a new supply.

The Patriot equipment is simple, inexpensive and easy to use. The system involves a card reader and printer, which connect into the phone line. The Medeco computer is automatically dialed.

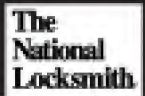
Yet, with all the ease of key duplication, the Patriot offers all the features of a Medeco Blaxial lock. It is U.L. - listed, pick and drill-resistant, gives solid key control, and the Medeco locks are both versatile and durable.

Goderre said that there is yet another feature that sells the Patriot to its customers: keys can be cut at any Patriot locksmith's shop, not just the one where the original lock was purchased. Since Medeco keeps the records, all a locksmith needs to be able to cut the keys is Patriot equipment.

A worst-case scenario will drive the Patriot point home. A business owner's card has been lost, and keys could possibly be cut if signature and sight verification were not carefully checked. But Medeco can prevent that from occurring by instantly invalidating that card. A new card, with different identification, can be issued to replace the stolen one, and duplicates can then be cut as usual.

The Patriot Program is available to all locksmiths. It offers an affordable quick and hassle-free way to offer a superior product.

For more information contact: Medeco Security Locks, P.O. Box 3075, Salem, VA 24153, (703) 380-5000. §



by Dale Libby

Opening Direct Drive Safes

"The procedures we will discuss work on direct drive safes made either in America or the Orient."

In this article I am going to use a Sentry type direct drive safe to explain how to wire open these safes in specific circumstances. However, the procedures discussed will work on other direct drive safes, made either in America or imported from the Orient. The approach is basically the same with minor differences which are not significant to the opening strategy and methods involved.

An instance where this safe opening method works is when the drive wheel becomes disconnected from the spindle. When this happens, the dial is turned and there is no movement of the wheel pack. Also,

the drive cam or wheel has fallen off making turning of the dial useless.

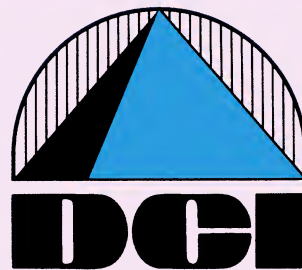
Before we go into the wonderful world of wiring open direct drive safes, (this method will work on Group I and Group II locks at times with some major modifications to be discussed in another article), let us discuss why these wheels and drive cams fall off in the first place.

The main cause of this problem is the changing of safe combinations by someone who is not qualified to do the job. Usually, the problem can be labeled a "District Manager." Many companies, in order to save money, have created a key or core changing D.M. In addition, these

District Managers have been taught, more than likely "self taught," in the art of changing safe combinations.

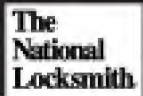
Many establishments use Sentry Safes for what they were not meant to do. They are fire safes, not money chests. One pinball arcade that I service has six of the new type Sentry Safes. Each employee has his own unit to keep his money in during the day. The DM of this company is always changing these combinations whenever an employee is changed. He is using improper methods and not putting back the correct parts in the correct order.

These safes have a nut retaining



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tabbed washer to hold on the nuts. Most times, if the DM puts the nut on, he does not fold up the tab to retain the nut. That's fine, for me. Changing combination locks that are key changeable are not so bad, but when taking apart the lock itself is required, as in direct drive safes, problems do occur frequently.

The first problem is getting the lock or wheel pack back together so it works properly. Failure to do this will cause the nut or other fastener to fall off the end of the spindle, thus causing the drive wheel or cam to become disconnected.

When this occurs on a Sentry or other related safe with direct drive configuration, it is easy to open the safe, usually in less than ten minutes with no damage to the safe or mechanism. There is no drilling or putting pressure on the opening handle and reading the results.

I will now divide the opening sequence into two parts: one for the old style Sentry Safe, and one for the newer modular units.

Old Sentry Safes. On these safes, the drive wheel is held on with a threaded lock nut. This can and does become loose and will fall off. When this happens, the drive wheel will move away from the wheel pack or fall off, thus causing a disconnection. After this happens, the dial and spindle are removable from the front of the safe door so there are two wheels keeping the safe locked. There is now a 1/4" to 5/16" spindle hole available to put in

our wire.

Newer Sentry Safes. On these more modern units, the wheel pack is a self contained unit on the safe. The spindle of the combination dial is attached to a drive cam that is secured by a nut and a retaining tab arrangement that fits on the spindle. (See *Illustration 1*.) When this nut falls off, the three wheels stay complete against the opening bar, and the drive cam falls off causing a lockout.

A problem that must be overcome with this safe is to remove the dial and spindle. A fascia plate acts as a combination indicator and keeps the dial from being removed even when the drive cam has fallen off. It is simple to remove the dial when you know how.

The escutcheon is held on with double-faced tape. The way to free the dial is to pry gently up on this plastic plate to free it from the face

of the door. Once the whole plate is pried away from the door, it can be pulled up and turned enough in a clockwise direction to free the dial that can then be removed to expose the spindle hole. Now we are ready to wire the unit open.

Wiring Procedures. The theory and wiring of the units are the same for both the newer and the older units. The new units offer three wheels and the old units have only two wheels to deal with. In addition, the old safes that have two remaining wheels have no false gates in the wheels to make the opening harder. Of course, the new safes have false gates in the number three wheel which makes the opening a little more difficult.

The wire that I have on my truck is wire used to hold up ceiling insulation, purchased in a pack of 100. They are straight pieces of wire 18" long that look like hanger wire.

These are useful in many aspects of locksmithing and safe opening. They are also useful in car opening.

The first procedure that must be done is to remove the cover plate at the back of the combination lock. I insert a screwdriver into the spindle hole and hit it with the heel of my hand, which dislodges the back coverplate. This allows the wire to be fully inserted, and does not damage the back cover. (It bends it a little.)

Once the cover is removed, bend a flat hook in the end of the wire about two to three inches in length. Then make a right angle bend to act as a handle indicator at the other end of the wire. This will show where the hook end is and will let you see when the wheels are at the opening point, usually at 9:00 o'clock. (See *Illustration 2*.)

Insert the wire in the spindle hole until the inside hook is above the wheel pack. Pull on the wire until it opens inside the safe door. Once the wire is open the wheels can be turned by pulling out and "fishing" for the wheel gates and turning towards the opening.

Keep moving the opening handle up and down to trap the wheel gates under the bolt while fishing for the gates. Every time you find a

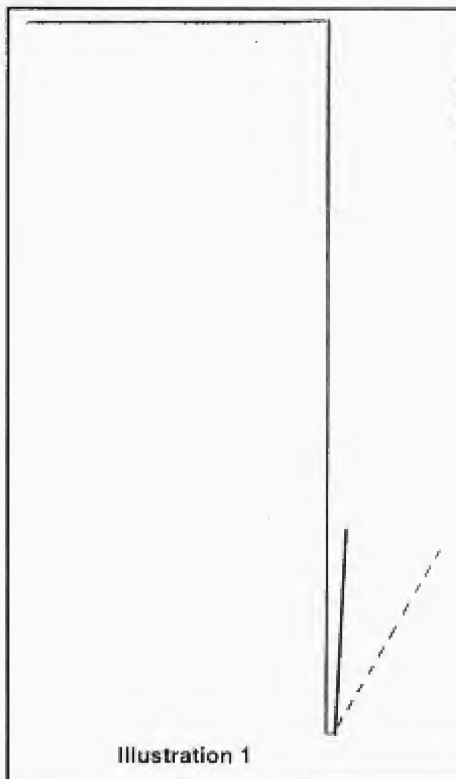


Illustration 1

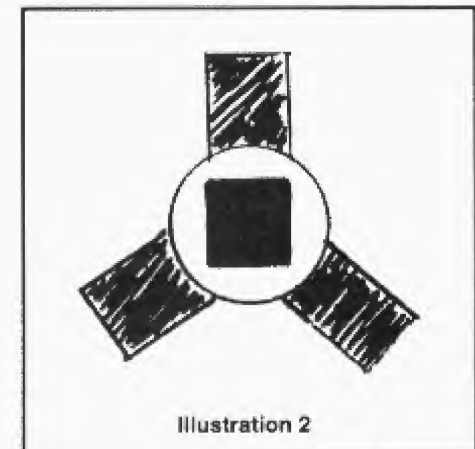


Illustration 2

gate, the wire will pull out a little further. It is harder to explain than to do.

Once the safe is open, the handle will turn completely. Repair of the safe is quick and easy. Be sure to use the nut retaining washer on the newer safes. I covered changing the combinations on these new safes in a previous article. All one has to do is to push in the wheel pack and reposition the drive cam. It can be done in less than one minute after the back cover is off. Open and Prosper! \$



Safe Marketing...

Gardall's New Six Pack

"Six of Gardall's best selling safe models are mounted on an attractive, compact display rack."

The Presidential election is approaching, and one topic that is certain to dominate the campaign trail is how to improve our nation's economy.

While a political solution to our nation's problems would be welcomed by all, locksmiths now have an avenue to improve their profits by increasing their safe sales. Gardall Safe Corporation has announced the introduction of the Gardall Six-Pack. The Six-Pack is a factory sponsored promotion, and consists of six of Gardall's best selling safe models mounted on an attractive display rack. The Six-Pack will allow locksmith dealers to display these popular models in a manner which eases viewing by customers, while minimizing the floor space requirements in a locksmiths shop. Further, the rack incorporates a promotional poster and a point of sale literature display to hold retail brochures. The safe models that come with the Six Pack are not only popular with customers, but they allow you to represent the entire Gardall product line. These six models should allow your customers to view a safe on the display that has the features they seek in a safe.

The bottom shelf displays two of Gardall's UL tested 1 hour 350 fire safes. Model 1310-T-C is our smallest fire safe and is displayed in our attractive tan color which is very similar to the "putty" color long popular in office decor. Model 1812-G-E is a medium sized unit, displayed in gray and features the LaGard 3600 Swingbolt electronic lock. This lock has been very well received due to ease of use. The electronic lock is proving to be popular with older individuals as the numbers on the key pad are large and easy to read.

The top shelf of the Six-Pack exhibits safe models intended for several different applications. Model



The Gardall Six-Pack point-of-purchase display rack.

SL6000 is relatively new to the Gardall product line, as an extra deep wall safe offering a six inch depth. It is intended to be mounted flush with the wall and is designed to fit between wall studs that are placed 16" center to center.

Model H-2 is a compact utility safe that is designed for use in car trunks, boats, recreational vehicles, or a basement wall due to it's size.

Model TC1206-G-K is a small depository safe well suited for delivery trucks, taxis etc., as deposits can be made through the drop slot without unlocking the door and exposing the contents to theft. Model RC1218-G-C is a larger depository safe that accepts deposits without unlocking the door via a rotary hopper. Both depository safes employ an anti-fish baffle to prevent removal of the safe contents through either the drop slot or rotary hopper.

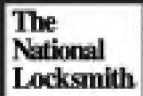
The safes included in the Six-Pack of course employ the usual Gardall

features such as UL listed combination locks, hard plate protecting the lock (most models) full length locking bar and heavy duty hinges.

How will the Gardall Six-Pack improve your safe sales? Many people recognize the need for a safe but have little if any appreciation for the features that distinguish a "premium" safe from a low end unit. The volume of low end safes sold through the national discount stores is evidence of that. We believe that many people, have little appreciation of the function of the various features found on a safe which are intended to protect against unauthorized or destructive entry.

Imagine yourself asking the average consumer the following question: Which lock is more resistive to manipulation, a typical UL Group lock or a straight tail piece style combination lock? Most people would probably have no idea what you are talking about. Your job then, is to assist the prospect with understanding the features. And let's not forget, features or increased function equates to increased value for your customer. Probably the best way to give your customers an appreciation for the value of the features is by demonstrating the safe to them. Be careful not to push a demonstration though, as before a prospect will consider a product they must be convinced of a need. First you must convince the customer on the need, then sell the product. To best assess a customers need, ask them open ended questions. That is to say that the answer cannot be given as a simple yes or no but the person must elaborate.

A safe dealer must be aware of the situation where a safe is advantageous. Any business with late hours or delivery trucks taking cash receipts, accountants with tax



records, lawyers with confidential documents, and offices with personal computers that use floppy disks or data cartridges are all business environments where a safe could be useful. Homeowners like to protect valuable collections, and guns. Many people also choose a home safe over a safe deposit box due to convenience coupled with the fact that the state seals a safe deposit box upon the death of the renter or co-renter. Use your knowledge of the different safe types, the various safe ratings and select the type of safe you feel would be best suited to your customer.

After identifying the type of safe that is best suited to your customers needs through your conversation, show them the safe and begin your demonstration. You begin by discussing the construction; the Gardall 1812-G-E is built to resist most common methods employed when a safe is subjected to a burglary attempt. For instance, a favorite method of burglars to get a safe open is to try to remove the hinges. The model we are discussing has hinges made of 1/4 inch steel. And, they are welded inside the body so there is no access to the weld. The hinge strap is also welded to the door using a plug weld which is not only concealed, but shielded from attack by the hinge strap. Of course, even if the hinges were completely removed, the 1812 has a locking bar that runs the full length of the door which locks into a bolt channel and prevents removal of the door anyway. Explain that the locking bar is supported by steel diagonal braces to ensure the structured rigidity of the door.

Continuing, you explain how some burglary attempts center on efforts to punch the lock away from it's mounting inside the safe by smashing the dial in with a sledgehammer. The theory is no lock, no problem, but the independent relocking device on this unit fires directly into the boltwork and still the thief is no closer to opening the door. Other features to discuss are the hard plate protecting the lock. Describe to your customers what function it serves. The break away handle is another feature to describe to your prospect.

Assess your customer's feelings towards the product by asking for their reaction to the features. The more involved they become with

the demonstration the more committed they are to the purchase process. Tailor your presentation to make it seem to your customers as though the product were designed with their specific needs in mind. Also, because many purchase decisions are borne of emotion, it is helpful to project ownership in your presentation and use colorful language to describe your product.

Because locksmiths sell products that are superior to their discount store or hardware store counterparts, the products are generally more expensive. Accordingly, as you are not competing on the basis of price, your emphasis must be servicing the customer. Service can be having the ability to answer a question accommodating a special request or offering delivery and installation.

To maximize your return on your investment in inventory, the public must be made aware of your product and services. Your efforts in this area might range from advertising to participating in home shows or police sponsored security week. Other ideas are as simple as listing your business under Safes in the yellow pages and incorporating the word safe in your company name.

In summary, success in safe sales is best achieved through a combination of factors; knowledge, unique product and service are all factors to choose when deciding where to buy a product.

For more information contact: Gardall Safe Corp., P.O. Box 30, Eastwood Station, Syracuse, NY 13206, (315) 432-9115. §



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Mini- Section...

Locksmith Schools

In this mini-section you will read about many of the organizations offering education to the trade."

Acme School of Locksmithing

Acme School of Locksmithing is a residential school in the Midwest, approved by the Illinois State Board of Education.

The owner and founder, William T. Beranek, is a most qualified locksmith and safe technician serving the southwest suburbs of Chicago. Mr. Beranek has been practicing his profession as a lock shop and mobile service owner for 20 years.

The objective of the locksmith program offered at Acme School is to introduce and teach the basic skills one must know to begin a career in this field. This course was developed for the individual with no prior experience or training or for the individual with previous experience who wants to expand and further his ability and techniques. Locksmithing is a field in which one can work full or part time, day or night, or whenever one's present daily schedule allows.

The Acme Locksmith course is taught by professional, state approved instructors in an actual workshop setting. The ample space classroom is designed to accommodate 10 students per session very comfortably. This is a "learn by doing" and "hands-on" training course.

Mr. Beranek has a successful lock and key shop on the school premises where students may observe qualified locksmiths in action and practice themselves.

This year, Mr. Beranek has added four new advanced specialty courses which have just been approved by the Illinois State Board of Education. They are: Electric Strikes and Adams Rite installation; Commercial Locksets and Removable Core Cylinders; Intermediate Masterkeying (Designing Masterkey Systems); and Construction, Installation, and Repair

of Aluminum Entrance Doors.

The first three courses were developed for the individual with basic locksmithing skills. The fourth one does not have this requirement.

Information pertaining to lodging for the out-of-town students is available upon request.

**For FREE Information
Circle 396 on Rapid Reply**

Colorado Locksmith College

Colorado Locksmith College is nestled below the beautiful rocky mountains in Westminster, Colorado. It was originally established in 1986 to meet the needs of tradesmen looking for qualified locksmiths to work in an already established shop. After a year of development and a tremendous show of interest from the public, a training program was approved. It covers basic locksmithing in a way that can best be described as a classroom apprenticeship with controlled subject exposure. This means the exposure is not customer generated, but outlined and taught systematically. The school caters to people needing to learn one subject such as picking, impressing, pinning, or masterkeying, in addition to the standard courses. Education is updated regularly in an effort to remain a leading educational institute.

Colorado Locksmith College is a hands-on locksmith school located in the west with approval from the department of private occupational schools, division of higher education, and all lessons are taught by a credentialed instructor.

The school offers diploma and certificate courses only; it does not offer correspondence classes of any kind. In addition, one instructor is scheduled for each ten students. This

assures one on one contact whenever needed.

Grading is based on a traditional "A" to "F" format and students are dropped for failing grades; this maintains a standard for the benefit of employers. It is mandatory all students submit to a National Crime Investigation prior to entry, and it is not the policy of the school to accept felons or criminals.

Finally we are proud to say not all of our graduates are from the United States.

**For FREE Information
Circle 397 on Rapid Reply**

The Golden Gate School of Lock Technology

The Golden Gate School of Lock Technology, located in Oakland, California, was founded and established in 1970 by Edwin W.L. Scott, Jr.

Since its opening, the school has dedicated its efforts toward providing the finest in "hands-on" practical locksmith training. The school also offers residential training in electronic security and correspondence training in locksmith business management. The Golden Gate School is licensed by the California State Board of Education.

All students attending the school are thoroughly screened, photographed and registered in school files. Students are also required to be fingerprinted and records checked by the Department of Consumer Affairs for the State of California.

Training is given in all aspects of locksmithing on basic and advanced levels, allowing any business to look upon the graduate as an asset to his company, since he would not have to spare as much time to train employees.

The Golden Gate School is unique



In several ways. The teaching technique has been praised by students: graduates from the first class to the most recent are welcome to call or visit the facility at any time. Additional instructors are readily available when needed.

The Electronic Security course is taught on a level that is easy to comprehend because of so much "hand-on" training. The subjects include: Basic Electricity; basic electronics; wiring diagrams; running wire; basic residential and auto alarm systems; closed circuit television, and access control systems, as well as troubleshooting, sales and pricing procedures.

Locksmith and electronic security classes are only held twice a year because the school's goal is to train potential employees. The Golden Gate School does not accept grants or G.I. bills; students are accepted more on their willingness to learn and their interest in bettering the industry as well as themselves.

**For FREE Information
Circle 398 on Rapid Reply**

HPC's Learning Center

HPC's Learning Center, a private state accredited vocational school

located in the Northwest Chicago, Illinois area, offers locksmithing classes including comprehensive lectures, as well as hands-on training with the widest variety of tools, key machines and locksmithing equipment.

The classes are taught in both basic and advanced and are held two nights a week for 3-1/2 hours. Both sessions are also available in an intensive format (12 days at 7 hour/days). The basic session consists of key blank identification, key duplicating, changing combinations of pin and disc tumbler locks, key-in-the-knob (service and installation), mortise locks (service and installation), picking and car opening (Ford, GM and Chrysler), impressioning, code cutting, code books, software and masterkeying.

The advanced session consists of tubular locks, servicing high security (Abloy, ASSA, Emhart and Medeco), servicing and key cutting high security dimple locks (DOM, KABA, KESO, and multi-lock), servicing Ford 10 cut, VATS/PASS with interrogator, air bag columns and foreign auto lock servicing installation on glass and aluminum doors, basic electricity, access control (Core Key, Simplex and Marloc), advanced masterkeying and computerized

locksmithing, shop management, safe lock servicing manipulation and the theory of safe penetrations.

For several years now, HPC's Learning Center has been teaching new locksmiths the basics, as well as teaching experienced locksmiths some new tricks.

**For FREE Information
Circle 399 on Rapid Reply**

Lock and Safe Institute of Technology

Any man or woman interested in entering a recession-proof career can learn the locksmith trade from the experts at the Lock and Safe Institute of Technology, Inc.

"We teach a complete line of locksmithing skills, and we work with our students so as to fit their classes and on-the-job training into their personal schedules," stated Lewis Jonas, director of the Institute in Pompano Beach, Florida.

The students are taught such skills as: changing lock cylinders; repairing cylinders, re-keying cylinders; opening safe locks and other locks; changing safe combinations; installing burglar alarms; and various business techniques.

Lewis and his brother, Howard,



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founders of the Institute, have trained many locksmiths who have gone on to start their own businesses. The Jonases taught special education and industrial arts classes in New York schools, worked as professional locksmiths there for 12 years and in South Florida for the past twelve years.

The purpose of the Institute is to provide students with a comprehensive and detailed education in the workings of locks and safes, covering most aspects and phases of locksmithing.

The course of study at the Institute take 420 hours. In addition to the time in the classroom, students are taken on actual jobs so they can obtain hands-on experience in all types of locksmith work. Students also go into the field to observe and participate in locksmith work.

The school has open-end enrollment in that students can enroll any time and work at their own pace. Graduate students have access to a 24-hour help line. The courses are continually updated and seminar mini-courses are offered for practicing locksmiths to strengthen individual areas in which they may need help.

Upon the completion of the course, each student is awarded a certificate and also given a key-cutting machine, a pinning kit, a pick set and other items.

**For FREE Information
Circle 400 on Rapid Reply**

The Locksmithing Institute

The Locksmithing Institute, the first correspondence school of its kind in America, has moved its permanent headquarters to Fairfield, NJ. John Reagan, President and Executive Director has announced that student services will be greatly enhanced with the addition of a computer system designed to speedily respond to curriculum or individual inquiries.

In addition, The Locksmithing Institute offers an advanced course in basic burglar and fire alarm technology. This course is a perfect add-on to the locksmithing course or for licensed locksmiths, and you learn at your own pace. Burglar and fire alarm installations can generate additional income for established locksmiths or for students planning to go into their own locksmithing business.

Both courses supply students with all tools and equipment necessary to complete the courses. The course lessons are easy-to-follow, illustrated

with step-by-step, hands on material. An 800 toll free help number is available for students and graduates to solve problems, ask advice and discuss all pertinent questions relating to training or business.

The Locksmithing Institute has been a major force in training locksmiths for over 40 years and is responsible for helping set-up thousands of successful locksmithing businesses.

A wide variety of services are available to graduates such as bonding, equipment and supplies, blanks, accessories, business cards, and much more.

**For FREE Information
Circle 401 on Rapid Reply**

Pine Technical College

Pine Technical College is part of Minnesota's public higher education system. Their technical colleges provide employment-oriented education for thousands of students in hundreds of programs. Graduates of the Locksmithing Technician program have successfully completed 96 credits, or about 1500 classroom hours, of instruction

divided into three types of classes:

Technical locksmithing classes combine theory and supervised practice in basic locksmithing skills such as impressioning, picking, installations, safe servicing, automotive lock service, identification of locks and keys, electronic locking and access

control, industry internship, and masterkeying. This technical component is over half of the 96 credits.

Industry related classes include security theory and management, small business management, marketing, welding, basic electricity, and welding. These related classes make up about a third of the 96 credits.

General education is required for all of Minnesota's Technical College graduates. Their program includes 12 credits of math, communication skills, and computer use.

This balance of classes is constantly updated to include current trade information and produces a graduate with essential business and "people" skills in addition to valuable technical skills.

Financial aid is available through veterans benefits, guaranteed student loans, federal grants, and scholarships. Several students have also been funded by employers and workers compensation retraining programs. PTC serves employers as an alternative to expensive on-the-job training.

Pine Technical College provides comprehensive locksmith training in a public school setting. New students can begin our program at three quarterly start dates each year. \$

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The Lighter Side

Crisis!



by Sara Probasco

"Quick! Send a locksmith out here to the radio station. I'm locked in my office and can't get out!"

This came on the heels of unlocking one doctor's vehicle for the second time that afternoon and finally rescuing a toddler who had invented a new "game" of re-locking a Volvo door as soon as Don could get it unlocked.

The day had not been dull.

This latest call came at five o'clock on a Friday afternoon, so we classified it as an emergency and sent Don right over. By the time he got there, "happy hour" was in full swing behind the locked door. To the tune of hard metal rock and riotous laughter, Don finally managed to get the door open.

The culprit was a loose threshold that had slipped just enough to jam the door upwards, putting sufficient pressure on the door latch to prevent its retraction.

Contrary to the tone of the original call, no one in the office seemed stressful over the situation. In fact, they were still partying, when Don collected his fee and left.

I have a special place in my heart for people who lock themselves in. No doubt, this goes back to my childhood, when my older brother's favorite trick was to lock me into a small bathroom beneath the staircase on the first floor of our home.

Catching me at the disadvantage, he would swipe the skeleton-style key from the inside keyhole and switch it to the outside, locking the door when I could do little to stop him.

Magnum's lock-picking techniques were unknown, back then, so I had resorted to imitating

Dick Tracy in a movie I had seen. Soon I became proficient at jiggling around inside the keyway with a hairpin or a small piece of wire until I had the key positioned to my satisfaction. Then I would poke it out the other side, where it would drop onto a piece of paper that I had slid into place. Carefully, I would then draw the paper and key back under the door to my waiting hand and unlock the door. TaDa!

We had a basement in our house that presented a similar problem and solution, from time to time. Fortunately for me, such horrors as "Freddie" were not known to my generation of children. If they had been, my "jiggling" at the key hole might have come from a different source entirely, and I might never have successfully accomplished the task for glancing over my shoulder toward the dark at the foot of the stairs.

For most people, being locked in seems far worse than being locked out. I have never fully understood why. Confinement in familiar surroundings, such as rooms in your own home or office or even a comfortable motel room, would not seem to be an unpleasant circumstance.

Unpleasant or not, it is a fairly frequent occurrence. We have answered calls involving the elderly who became confused and children who lock themselves into bathrooms and can't (or won't!) open the door. We have rescued guests from their motel rooms and dogs who locked their own car doors. We were even summoned one evening to release "Mother Superior" from incarceration in a back-stage dressing room during the opening performance of *The Sound of Music* at our local Grand Opera House.

I once managed to lock myself out of my house and into our high-fenced back yard, but that's another story.

Recently, I read about a man who was locked in a walk-in vault for several hours, while his fellow workers

dickered with various locksmiths over their prices for getting him out. However, this did not seem to be one of the more stress-laden occurrences. Apparently, the man fortified his courage by drinking beer that had been stored in the vault.

The other day, an elderly lady called our shop with such a problem. She had locked her double-cylinder deadbolts at both the front and back doors, had removed the key, and had mislaid it somewhere inside the house. Compounding the problem, all of her windows and doors were covered with heavy shutters which made entry difficult. This was especially true, because the shutters were all latched from inside, and there was no easy access to the lock cylinders for picking.

"If you can open a window and release the shutter latch," Don shouted to the woman inside, "I'll crawl in, and then I can pick open the door."

"Are you crazy?" came the reply. "These windows haven't been opened since central air conditioning was installed in this house. That was at least twenty years ago. There's no telling how much dirt has settled in around them, by now. Besides, we've painted them shut two or three times that I remember. I doubt could get one of these windows up if I went at it with a crowbar, which I'm not about to do."

Don grumbled under his breath and began walking around the house, looking for a solution.

"And, what's more, don't you damage my shutters," the woman called to Don. She was following him by going through the house as he went from window to window around the outside.

"I had to get a carpenter all the way from San Antonio to make those for me," she continued, "and the man's dead, now."

That added a lot to Don's peace of mind.

Having exhausted all other

Continued on page 89

Beginner's Corner

Lever Locks

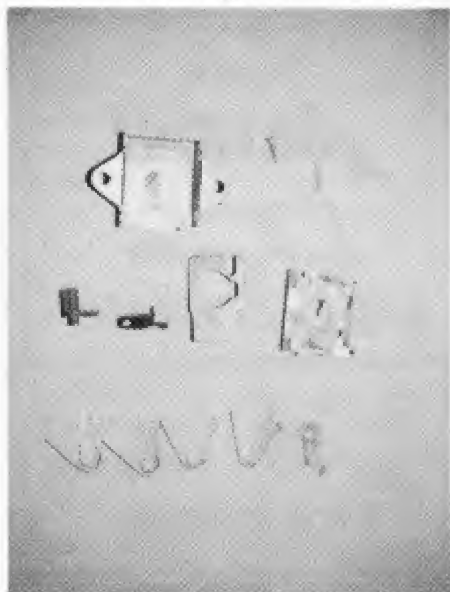


by Eugene Gentry

The lever lock, which has been in use for many years, can be found on trunks, suitcases, desk drawers, cabinets and safety deposit boxes. The locks offer more security than the ward locks. Many are inexpensive, and because the case is riveted, cannot be serviced.

This article will explain how a lever lock is constructed and how it works. It will tell you how to pick open the lock and how to make a key.

Lever locks may have from one to five or more levers, depending on the security needed. These lever locks (see photograph 1), removed

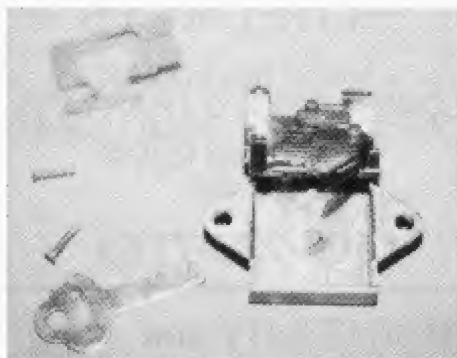


1. Five lever lock removed from storage locker.

from some storage lockers, are made up of the case, five levers, a bolt, and key guide. Each of the five levers has its own spring. Each has a gate which has to be in the proper position for the stop on the bolt to enter.

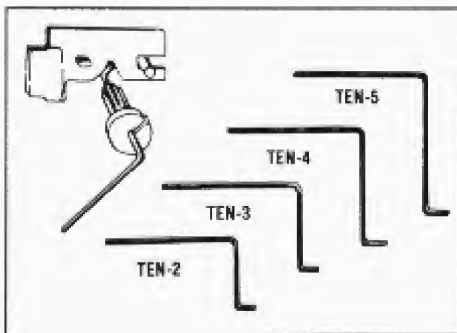
The lock operates by using a flat

steel key, cut at various depths. (See photograph 2.) When the key turns, the bottom edge will operate the bolt, turning it in or out. The depths on the key will line up the levers with the gates so the stop on the bolt can enter.



2. Steel key, levers placed on shaft.

If you are required to make a key for this lock, you will have to pick it open. This requires the use of two tension lever picks. If you don't have the picks, you can make one of stiff wire with the end entering the lock bent at 90 degrees, about 1/4 inch long. (See illustration 3.) Place the first pick to the end of the keyway and turn clockwise. This puts pressure on the bolt, and the stop will press on the top of the levers. With the second pick, start at the rear, moving each lever until you can feel the stop enter the gate. When all the gates are lined up, the lock will open.



3. Tension wrenches for lever locks.

To make a key for this lock you will have to remove it from the desk, or cabinet. It is usually held on with two bolts. There are two ways to make a

key. The first one is to take the lock apart. Remove two screws, take off the top of the case, and remove all of the levers. Now check your key blank to make sure it is long enough to go to the bottom of the keyway. See that the tip goes into the hole, and that it is wide enough to operate the bolt.

Turn the bolt to the locked position. Place the first lever on the shaft in correct position with gate pointing toward the stop on the bolt. Turn the key to make an impression mark on the key. With a ward file, make your cut at the impression mark, testing the key, as you file, until the gate lines up with the stop on the bolt. With the one lever, you will be able to advance and retract the bolt.

Now place the second lever on the shaft. Follow the same procedure by cutting the depth, and testing the key until it works. Do this one by one with the remaining levers.

When all the levers are aligned, assemble the lock, then place the key in the keyway, and make a mark on the key at the entrance to the keyway. This is a ward that prevents the key from turning. File this ward or throat cut about 1/16 deep, or until the key turns in the keyway.

I used this method on some drawers that were inside a safe and it worked well because the levers were inside the lock case. On these locker lever locks this method does not work as the lever shaft is attached to the lid of the case. Because of this, the key is made without taking the lock apart.

Note the hole in the case on the locker locks. (See photograph 4.) This hole looks in on top of the levers. You can see where the stop on the bolt enters the gates. It's almost like looking at a combination lock where the fence enters the gates on the wheels.

To make this key we will work from the bow of the blank to the tip. Turn the bolt to the locked position. Insert

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Letters

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General's office get their law in effect and begin enforcing it. It would not only stop all the unprofessionals from attempting to gain entry, but all those people that should never have sold these tools to them from doing so without recording to whom and when as also required by law.

If your readers are willing to show their support they can reach me by writing: G&T Locks Limited, 105 Consortium Court, London, Ontario, Canada, N6E 2S8. I appreciate your help in this matter.

London V. Peach
Canada

CCL Padlocks

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application in medium security areas.

For heavy-duty, rugged use and top notch security, CCL offers pin tumbler brass padlocks, available in 1-1/8", 1-1/2" and 1-3/4" sizes. The No. 178 and No. 900 series brass padlocks may be ordered with several different shackle lengths in either case-hardened steel or solid brass. CCL's No. 95 series pin tumbler padlocks feature zinc die cast bodies with hardened-steel shackles, for the cost-conscious consumer.

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For more information contact: CCL Security Products, 199 Whiting St., New Britain, CT 06051, (203) 229-6199, FAX: (203) 223-7601. \$

The Lighter Side

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possibilities, Don paused at the locked gate to the back yard.

"Aha!" he said to himself as he peered at the rear door. "I think I see exposed hinges on that back-door shutter. I'll take them off and remove the shutter that way."

He was half-way over the rickety back yard fence when he heard a low growl and looked down into the hard, yellow eyes of a snarling cur.

"Hey, lady," Don shouted, "does your dog bite?"

"Oh, heavens no," she called back. "Snookums may bark a bit, but he's gentle as a lamb."

"Here, Snookums. Nice doggie," Don said, reaching to pat the dog's head as he eased off the fence and into the back yard.

As soon as the louvered screen had been removed and the lock picked open, Don made the lady a couple of keys and headed for home.

"You know," he said, as I mended the jagged tear in the seat of his britches, "that dog wasn't really mean. He just had an identity problem."

"How do you mean?" I asked.

"Well, I kept calling him Snookums, and he took offence."

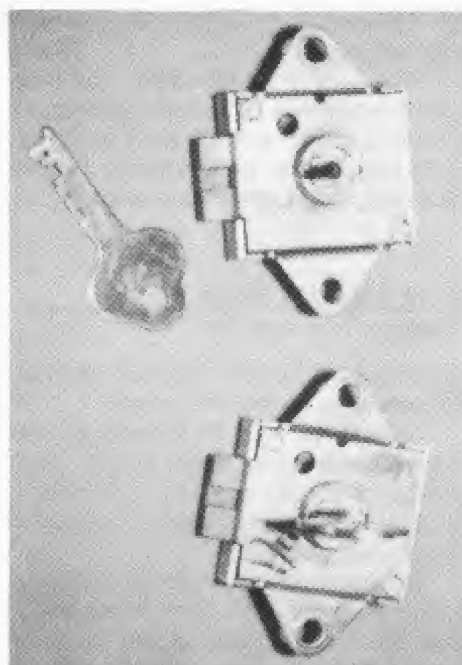
"I still don't understand. I thought Snookums was the dog's name."

"So did I, at first. But when I got inside, the lady took one look at my torn britches and asked, 'What in the world happened to you? Well, I explained about the dog and said, 'I thought you told me your dog doesn't bite.' 'I did,' she said. 'He doesn't.' 'Then, how do you explain this?' I asked her, pointing to my rear end. She looked out the door at the Tasmanian Devil I had tied to her tree and she said, 'Simple. That's not my dog.'"

\$

Beginner's Corner

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4. Notice the hole that looks in at the top of the levers at the gate and bolt stop.

the steel blank in the keyway and make a mark on the key at the point of entrance. This would be the throat cut, so file about 1/16" deep. Turn the key in the lock to make impression marks on the blank. These are to guide where to file the cuts. You will not be able to impression this blank as you do other types because the springs cause constant pressure on the levers.

You will see the marks on the blank with one mark at the very end near the tip. Do not file a cut here. This is where the key is operating the bolt. The first cut here will be about 1/16" from the end of the blank. Looking down the hole, make your cuts one at a time until each lever gate is lined with the stop on the bolt. When all the levers are lined up the bolt will retract.

If the lock you are working on does not have a hole, you can drill one carefully at a position to see the gates. To determine the correct position of the hole you might have to disassemble the lock, mark and drill, then assemble it to make the key.

Finally, you may find that some of the lever locks have been master keyed. This is indicated by the two gates on the lever. On some of the higher security locks the ends of the gates have been serrated to prevent picking. \$



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